

HANFORD Air Operating Permit

June 2001



EPA United States
Environmental Protection Agency



Department of Ecology Publication Number 00-05-006

Hanford Site Air Operating Permit

In the matter of the compliance by the)	Number: 00-05-006
U.S. Department of Energy – Hanford Operations, with)	Issue Date: June 20, 2001
Section 70.94.161 RCW, Operating Permits for Air)	Effective Date: July 2, 2001
Contaminant Sources, and the applicable rules and)	Expiration Date: July 1, 2006
regulations of Ecology.)	

In accordance with the provisions of Washington Administrative Code (WAC) Chapter 173-401, Operating Permit Regulation, the permittee, U.S. Department of Energy (DOE) at the Hanford Site is required to comply with provisions within this air operating permit, including provisions contained in all the Attachments identified below.

Attachments 1, 2, 3, and 4 are integral and enforceable provisions of this permit.

Attachment 1 contains the State of Washington Department of Ecology (Ecology) permit terms and conditions.

Attachment 2 contains the State of Washington Department of Health (Health) Radioactive Air Emissions License terms and conditions.

Attachment 3 contains the Benton Clean Air Authority (BCAA) permit terms and conditions applicable to the regulation of open burning and asbestos.

Attachment 4 contains a Federal Facility Compliance Agreement (FFCA) between EPA Region 10 and DOE signed on February 7, 1994. The FFCA is to provide a compliance plan and schedule to bring certain existing Hanford Site stack sampling/monitoring systems into compliance with requirements in 40 CFR 61, Subpart H.

The DOE at the Hanford Site is managed by two offices. The Office of River Protection (ORP) oversees the Hanford Site's tank waste remediation system at the 200 Area. The Richland Operation Office (RL) is responsible for the Hanford Site's environmental cleanup activities and the site-wide infrastructure issues. Their official addresses are listed below:

Department of Energy-RL
825 Jadwin Ave.
Richland, WA 99352

Department of Energy-ORP
P.O. Box 450
2440 Stevens Ave.
Richland, WA 99352

All terms and conditions (or underlying applicable requirements where regulations are paraphrased) are enforceable by the U.S. Environmental Protection Agency (EPA) and United States citizens unless specifically designated as not federally enforceable or listed as an inapplicable requirement in Table 5.1. (WAC 173-401-625). Any paraphrasing of regulations or other applicable requirements is for the convenience of the reader. The underlying applicable requirement is the enforceable requirement.

Regulatory Agency Relationships

EPA and Ecology

The Title V Air Operating Permit was added in the 1990 FCAA Amendment upon congressional authorization. Ecology is authorized to issue State AOPs under section 502 of the FCAA. Ecology may also delegate the federally approved state permit program to the regional air authorities. Per the EPA approved State Implementation Plan (Chapter 173-401 of the Washington Administrative Code), Ecology is the leading agency for this AOP except Attachment 4. EPA remains the leading regulatory agency for Attachment 4, “Federal Facility Compliance Agreement,” which was signed by EPA and DOE in 1994 to assure 40CFR61 NESHAP (National Emission Standards for Hazardous Air Pollutants) compliance.

Ecology and Health

A memorandum of understanding (MOU) describes the enforcement relationship and responsibilities of Ecology and Health on the Hanford Site. The MOU identifies Ecology as the lead agency for preparation and enforcement of the terms and conditions of this air operating permit. Health is identified in the MOU as the agency responsible for the enforcement of Attachment 2, the Hanford Site Air Operating Permit License Number FF-01. The MOU is included in its entirety in the Ecology Statement of Basis. The Ecology and Health Statements of Basis are supporting reference documents that provide a rationale for the development of the permit and offers clarification where deemed necessary. The Statements of Basis are non-enforceable.

For purposes of this permit, the terms “permit” and “license” are synonymous and may be used interchangeably. Likewise, the terms “permittee” and “licensee” are synonymous and may be used interchangeably.

Ecology and Benton Clean Air Authority (BCAA)

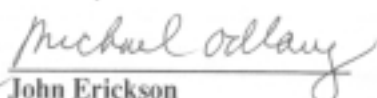
Ecology has exercised its authority under RCW 70.94 to regulate the airborne emissions of regulated air pollutants, with the exception of specific articles contained in Regulation 1, BCAA’s air pollution control regulation. BCAA enforces Article 5, Open Burning and Article 8, Asbestos on the Hanford Site. Attachment 3 identifies the BCAA open burning and asbestos requirements and the method of compliance utilized by the DOE.



Michael Wilson
Program Manager, Nuclear Waste Program
State of Washington Department of Ecology

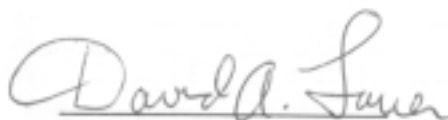
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Date

for 
John Erickson
Director, Division of Radiation Protection
State of Washington Department of Health

5-15-2001

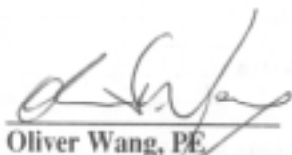
Date



David Lauer, Ph.D.
Control Officer
Benton Clean Air Authority

30 May 2001

Date



Oliver Wang, PE
Title V Permit Professional Engineer Reviewer
State of Washington Department of Ecology

5-21-2001

Date

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1. Emission Standards and Limitations
2. Compliance and Periodic Monitoring Provisions
3. Recordkeeping

Attachment 2..... Health License

1. Emission Standards
2. Applicable Requirement Terms
3. Monitoring, Testing, Quality Assurance, Reporting and Recordkeeping
4. Radioactive Air Emission Units Specific Applicable Requirements Tables

Attachment 3..... Benton Clean Air Authority Permit

Attachment 4..... NESHAP Federal Facility Compliance Agreement

1.0 Acronyms

ABCASH - Automated Bar Code Air Sample Hanford
 ALARACT - As Low As Reasonably Achievable Control Technology
 AOP - Hanford Site Air Operating Permit
 ASIL – Acceptable Source Impact Level
 BACT – Best Available Control Technology
 BARCT - Best Available Radionuclide Control Technology
 BCAA - Benton Clean Air Authority
 BTU - British thermal units
 CF – Conversion Factor
 CFM - Cubic Feet per Minute
 CFR - Code of Federal Regulations
 CO - Carbon Monoxide
 CWC – Central Waste Complex
 DCRT - Double Contained Receiving Tank
 DOE - U.S. Department of Energy, Hanford Operations
 DOE-ORP (or ORP) – U.S. Department of Energy, Office of River Protection
 DOE-RL (or RL) – U.S. Department of Energy, Richland Operations Office
 DOP - Dioctyl Phthalate
 DST – Double-Shell Tanks
 Ecology - State of Washington Department of Ecology
 EMSL - Environmental Molecular Science Laboratory
 EPA - U. S. Environmental Protection Agency
 ER – Emission Rate
 ESPC – Energy Savings Performance Contract
 ETF - Effluent Treatment Facility
 FCAA - Federal Clean Air Act
 FFCA – Federal Facility Compliance Agreement
 FFTF - Fast Flux Test Facility
 FGR – Flue Gas Re-circulation
 GCMP – Gas Cylinder Management Process
 GCP – good combustion practices
 gr/dscf - grains per dry standard cubic feet
 HAP - Hazardous Air Pollutant
 Health - State of Washington Department of Health
 HEPA - High Efficiency Particulate Air
 HWTU – Hazardous Waste Treatment Unit
 IEU - Insignificant Emission Unit
 IXM - Ion Exchange Module
 JCS - Job Control System
 LERF - Liquid Effluent Retention Facility
 LNB – Low NO_x burner
 MEI - Maximally Exposed Individual
 mmBTU/hr - million British thermal units per hour

Acronyms (cont.)

MOU – Memorandum of Understanding
NAAQS - National Ambient Air Quality Standards
NDA - Non-destructive Assessment
NESHAP - National Emission Standard for Hazardous Air Pollutants
NOC - Notice of Construction
NoC - Notice of Correction
NO_x – Oxides of Nitrogen
NRC - Nuclear Regulatory Commission
NSR – New Source Review
ORP – U.S. Department of Energy, Office of River Protection
PFP - Plutonium Finishing Plant
PM₁₀ - Particulate Matter 10 microns or less
PNNL – Pacific Northwest National Laboratory
ppm - parts per million
ppmvd - parts per million volume dry
PSD - Prevention of Significant Deterioration
PUREX - Plutonium-Uranium Extraction Facility
RACT - Reasonably Available Control Technology
RCHC – The Richland Central Area
RCW - Revised Code of Washington
RF – Release Fraction
RL – U.S. Department of Energy, Richland Operations Office
RMCS - Rotary Mode Core Sampling
SEM - Scanning Electron Microscope
SO₂ - Sulfur Dioxide
SQER – Small Quantity Emission Rates
SST – Single-Shell Tanks
TAP – Toxic Air Pollutants
TEDE - Total Effective Dose Equivalent
TEDF - Treated Effluent Disposal Facility
TRUSAF - Transuranic Storage and Assay Facility
TWINS – Tank Waste Information Network System
VOC - Volatile Organic Compound
WAC - Washington Administrative Code
WESF - Waste Encapsulation and Storage Facility
WRAP - Waste Receiving and Processing
WSCF - Waste Sampling and Characterization Facility

2.0 General Process Information

The Hanford Site, located in south central Washington State, occupies about 1,450 square kilometers (approximately 560 square miles) of semi-arid shrub and grasslands just north of the confluence of the Snake and Yakima Rivers with the Columbia River. This land, with restricted public access, provides a buffer for the smaller areas historically used for the production of nuclear materials, waste storage, and waste disposal. About 6% of the land area has been disturbed and is actively used. This 6% is divided into the following four areas:

- ◆ the 100-B/C, 100-D, 100-DR, 100-F, 100-H, 100-K, and 100-N Areas, which lie along the south shore of the Columbia River in the northern portion
- ◆ the 200 East and 200 West Areas, which lie in the center near the basalt outcrops of Gable Mountain and Gable Butte
- ◆ the 300 Area, near the southern border including the William R. Wiley Environmental Molecular Sciences Laboratory (EMSL)
- ◆ the 400 Area, between the 300 and 200 Areas

The 600 Area is the designation for land between the operational areas. Areas off the Hanford Site used for research and technology development and administrative functions can be found in Richland, Kennewick, and Pasco, the nearest cities.

Other areas and facilities that support Hanford Site activities can be found in the nearest cities (i.e. Richland, Kennewick, and Pasco). The facilities in these areas are not considered part of the Hanford Site major source because these areas are not considered contiguous to the Hanford Site. These areas include, but are not limited to, the following facilities:

- ◆ 700 Area in Richland, i.e., 825 Jadwin, 748 Building, and 712 Building on Jadwin Avenue.
- ◆ Richland Central (RCHC) Area, i.e., Butler Loop facilities and the Hanford Technical Training Center.

This air operating permit specifically excludes facilities not under the common control of the DOE and non-support facilities on leased land or within leased buildings. Facilities excluded at the time of permit issuance are the following:

- Allied Technology Group Corporation, Richland facility
- Interstate Nuclear Services laundry
- Battelle Richland North facilities
- Applied Process Engineering Laboratory
- Laser Interferometer Gravitational-Wave Observatory
- all Energy Northwest (formerly Washington Public Power Supply System) facilities

- all Port of Benton facilities
- US Ecology, Inc. commercial low-level radioactive waste burial site
- Kaiser Aluminum and Chemical Corporation extrusion press located in the 313 Building
- Siemens Power Corporation, Nuclear Division
- Livingston Rebuild Center, Inc.

The Hanford Site was acquired by the federal government in 1943 and for many years was dedicated primarily to the production of plutonium for national defense and the management of the resulting wastes. With the shutdown of the production facilities in the 1970s and 1980s, missions were redirected to site cleanup and decommission, and diversified to include research and development in the areas of energy, waste management, and environmental restoration. Decommissioned facilities or emission points are those that cannot be operated as is, and are not planned to ever operate again. In an extremely unlikely event that a decommissioned facility or emission point is reactivated, an applicable requirements assessment must first be completed.

3.0 Standard Terms and Conditions

3.1 *Duty to Comply*

The permittee must comply with all conditions of this Chapter 401 permit. Any permit noncompliance constitutes a violation of chapter 70.94 RCW and, for federally enforceable provisions, a violation of the FCAA. Such violations are grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application. WAC 246-247 and WAC 173-460 are state only enforceable requirements. [WAC 173-401-620(2)(a)]

3.2 *Need To Halt or Reduce Activity Not a Defense*

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [WAC 173-401-620(2)(b)]

3.3 *Permit Actions*

This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [WAC173-401-620(2)(c)]

3.4 *Property Rights*

This permit does not convey any property rights of any sort, or any exclusive privilege. [WAC 173-401-620(2)(d)]

3.5 *Duty to Provide Information*

The permittee shall furnish to the Ecology, Health, or BCAA, within a reasonable time, any information that the Ecology, Health, or BCAA, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Ecology, Health, or BCAA, copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to the administrator along with a claim of confidentiality. Ecology, Health, or BCAA, shall maintain confidentiality of such information in accordance with RCW 70.94.205. [WAC 173-401-620(2)(e)]

[Note: The permittee shall provide requested classified documents to representatives of Ecology, Health or BCAA who have the appropriate security clearance and a demonstrable need to know.
WAC 246-247-080(10) (state only)]

3.6 *Permit Fees*

The permittee shall pay fees as a condition of this permit in accordance with the permitting authority's fee schedule. Failure to pay fees in a timely fashion shall subject the permittee to civil and criminal penalties as described in chapter 70.94 RCW.

[WAC 173-401-620(2)(f)]

Per WAC 246-247-065 [Fees], fees for airborne emissions of radioactive materials shall be submitted in accordance with WAC 246-254-160. The licensee shall pay costs associated with direct staff time of the air emissions program in accordance with WAC 246-254-120 (1)(e). In any case where the Licensee fails to pay a prescribed fee or actual costs incurred during a calendar quarter, Health (1) shall not process an application and (2) may suspend or revoke any license or approval involved; or (3) may issue any order with respect to licensed activities as Health determines appropriate or necessary in order to carry out the provisions of WAC 246-254-170. [WAC 246-247-065 (state only), WAC 246-254-120 (1)(e) (state only), WAC 246-254-170 (state only)]

3.7 *Emissions Trading*

No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

[WAC 173-401-620(2)(g)]

3.8 *Severability*

If any provision of this permit is held to be invalid, all unaffected provisions of the permit shall remain in effect and be enforceable.

[WAC 173-401-620(2)(h)]

3.9 *Permit Appeals*

This permit or any condition in it, including the attachments or any conditions in them, may be appealed only by filing an appeal with the pollution control hearings board and serving it on the permitting authority within 30 days of receipt pursuant to RCW 43.21B.310. This provision for appeal in this section is separate from and additional to any federal rights to petition and review under section 505(b) of the FCAA.

[WAC 173-401-620(2)(i), WAC 173-401-735]

3.10 *Permit Continuation*

This permit and all terms and conditions contained therein, including any permit shield provided under WAC 173-401-640, shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted.

[WAC 173-401-620(2)(j)]

4.0 General Conditions

4.1 *Permit Renewal and Conditions*

This permit is issued for a fixed term of 5 years from the effective date of initial issuance. The permittee's right to operate this Chapter 401 source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least 6 months but no earlier than 18 months prior to the date of permit expiration. Upon receipt of a complete and timely application for renewal, this source may continue to operate subject to final action by Ecology, Health, and BCAA on the renewal application. This protection shall cease to apply if, subsequent to a completeness determination, the applicant fails to submit by the deadline specified in writing by Ecology, Health, or BCAA any additional information identified as being needed to process the renewal application. The application for renewal shall include the current permit number, the appropriate renewal fee, description of permit revisions and off-permit changes that occurred during the permit term, and any applicable requirements that were promulgated and not incorporated into the permit during the permit term. The renewal application should be sent to:

Program Manager
Nuclear Waste Program
State of Washington Department of Ecology.
1315 W. 4th Avenue
Kennewick, WA 99336-6018

and

Section Head
Air Emissions and Defense Wastes
Division of Radiation Protection
State of Washington Department of Health
Airdustrial Park, Bldg 5, PO Box 47827
Olympia, WA 98504-7827

and

Control Officer
Benton Clean Air Authority
650 George Washington Way
Richland, WA 99352

or other address, as directed by the agencies.

[WAC 173-401-610, WAC 173-401-710(1), WAC 246-247-060(6) (state only)]

4.2 *Transfer of Ownership or Operation*

This permit is nontransferable by the DOE, the owner and operator. Future owners and operators must obtain a new air operating permit. A change of ownership or operational control of this source is treated as an administrative permit amendment if no other changes in this permit are necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to Ecology, Health and BCAA.

[WAC 173-401-720(1)(d)]

4.3 *Submittals*

Reports, test data, monitoring data, notifications, and compliance certifications regarding nonradioactive air emissions, except asbestos and open burning, shall be submitted as specified in Attachment 1 to:

Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. 4th Avenue
Kennewick, WA 99336-6018

or other address as directed by Ecology.

Reports, test data, monitoring data, notifications, and compliance certifications regarding radioactive air emissions shall be submitted as specified in Attachments 2 to:

Section Head
Air Emissions and Defense Wastes
Division of Radiation Protection
State of Washington Department of Health
Airdustrial Park, Bldg 5, PO Box 47827
Olympia, WA 98504-7827

or other address as directed by Health.

Reports, test data, monitoring data, notifications, and compliance certifications required to be sent to the EPA shall be submitted to:

U.S. EPA Region 10 Administrator
Air Permits, MS: OAQ-107
1200 Sixth Avenue
Seattle, WA 98101

or other address as directed by the EPA.

Reports, notifications, and compliance certifications regarding regulated asbestos activities shall be submitted as specified in Attachment 3 to:

Control Officer
Benton Clean Air Authority
650 George Washington Way
Richland, WA 99352

and the EPA at the address shown above or other address as directed by the BCAA or EPA.

Reports, notifications, and compliance certifications regarding regulated open burning activities shall be submitted as specified in Attachment 3 to:

Control Officer
Benton Clean Air Authority
650 George Washington Way
Richland, WA 99352

or other address as directed by the BCAA.

The permittee shall promptly, upon discovery, report to Ecology, Health or BCAA, any material error or omission in these records, reports, plans or other documents.

Any application form, report, or compliance certification submitted to Ecology, Health, or BCAA pursuant to this permit shall contain a certification of truth, accuracy, and completeness by a responsible official. All certifications shall be in accordance with the requirements of WAC 173-401-520 and WAC 173-401-615.

4.3.1 Annual NESHAP report

The annual report consists of the annual Radionuclide Air Emissions Report For the Hanford Site required by 40 CFR 61.94 and WAC 246-247 and includes the following additional information per WAC 246-247-080(3):

1. The results of emission measurements for those emission units subject only to periodic confirmatory measurements.
2. Wind rose or joint frequency table.
3. Annual average ambient temperature.
4. Annual average emission unit gas temperature, if available.
5. Annual total rainfall.
6. Annual average emission unit flow rate and total volume of air released during the calendar year.

In accordance with WAC 246-247-080(3) the report is due by June 30 for the previous calendar year's operation. If the additional information is available in another annual report, the licensee may provide a copy of that report along with the information requirements listed above.
[WAC 246-247-080(3) (state only)]

4.3.2 Annual Air Emission Inventory

The annual emission inventory is submitted to Ecology (when required) no later than 105 days after the end of the calendar year.
[WAC 173-400-105]

4.3.3 Semiannual Reports

Semiannual reports will be submitted by August 15th and by March 15th. The semiannual report submitted by August 15th will contain information for the period from January 1 through June 30. The semiannual report submitted by March 15th will contain information for the period from July 1 through December 31. The semiannual reports will be in addition to the currently submitted reports. There are no semiannual reporting requirements for insignificant emission units defined by WAC 173-401-530, except those required by Ecology under WAC 173-400-105. Each semiannual report will be certified consistent with WAC 173-401-520.

Each semiannual report will contain the following information for the applicable reporting period (January 1 through June 30, or July 1 through December 31):

1. Each semiannual report will provide a reference to reports submitted to the regulatory agencies as required by General Conditions Section 4.5, Permit Deviation Reporting.
2. Each semiannual report will consist of reports of any required monitoring not previously submitted according to Section 4.3 or reference to reports of required monitoring that were submitted during the reporting period.
3. Each semiannual report will contain a summary of any substantiated air emission complaint investigation(s) required in Table 1.2 of Attachment 1 and issued during the reporting period.
4. For all minor radioactive emission points (potential to emit < 0.1 mrem to the maximally exposed individual) listed in Attachment 2, Tables 1.2, 1.3 and 2.1 of this permit, each semiannual report will confirm that any required monitoring was conducted to verify low emissions during the reporting period. The data derived from that monitoring will be reported in the Annual NESHAP Report, (see Section 4.3.1).
5. Each semiannual report will list any new regulatory order, (e.g. Notice of Construction) approval conditions imposed during the reporting period by Ecology, or Health.
6. Each semiannual report will list the EPA approvals to construct received during the reporting period.

7. Each semiannual report will include a progress report on the compliance schedules identified in Section 4.10.

[WAC 173-401-615(3)(a)]

4.3.4 Annual Compliance Certification

The initial annual compliance certification will be submitted no later than twelve months following the effective date of the permit. The annual compliance certification will be certified consistent with WAC 173-401-520. The compliance certification will consist of the following:

1. The identification of each term or condition of the permit that is the basis of the certification;
2. The compliance status;
3. Whether compliance was continuous or intermittent;
4. The method(s) used to determine the compliance status of the source over the reporting period consistent with WAC 173-401-615(3)(a).
5. Such other facts as Ecology, Health, or BCAA may require to determine the compliance status of the source.

All compliance certifications shall be submitted to Ecology, Health, or BCAA with a copy to EPA at the address shown in Section 4.3 above.

No certification is required for insignificant emission units per WAC 173-401-530(2)(d).

[WAC 173-401-630(5)]

4.4 Inspection and Entry

Upon presentation of appropriate credentials and equipped with appropriate personal protective equipment, the permittee shall allow Ecology, Health, or BCAA, or an authorized representative to perform the following:

1. Enter, at reasonable times, upon the permittee's premises where a Chapter 401 source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit.
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit.
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit. Health may require a demonstration of ALARACT at any time. Where controlled access areas will be entered, Ecology, Health, or BCAA shall provide a reasonable advance notice and enter in the presence of a facility representative.
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit.

Nothing in this condition shall limit the ability of EPA to inspect or enter the premises of the permittee under Section 114 or other provisions of the Federal Clean Air Act (FCAA).

No person shall obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out their official duties. In the event the hazards associated with accessibility to a unit require training and/or restrictions or requirements for entry, the permittee shall inform Ecology, Health, or BCAA prior to arrival, of those restrictions or requirements. The permittee shall be responsible for providing the necessary training, escorts, and support services to allow Ecology, Health, or BCAA to inspect the facility.

[WAC 173-401-630(2), WAC 246-247-080(1) (state only), WAC 246-247-080(9) (state only)]

4.5 Permit Deviation Reporting

The permittee shall report deviations from permit conditions, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken.

Potential threats to human health or safety

Deviations, which represent a potential threat to human health or safety, shall be reported promptly or as soon as possible. Promptly, as defined here, means as soon as possible following discovery¹, but in no case later than 12 hours after discovery¹ of a potential threat to human health or safety. This notice contains a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the immediate reporting requirements of WAC 173-401-615(3)(b), WAC 173-400-107(3) and WAC 246-247-080(5) (state only).

Non-health or safety related deviations

Other deviations from permit requirements or excess emissions shall be reported within 30 days after the end of the month during which the deviation is discovered or as part of routine emission monitoring reports.

[WAC 173-401-615(3)(b) and WAC 173-400-107(3)]

Additional written reports may be required by either Ecology or Health, according to the requirements of WAC 173-400-107(3) or WAC 246-247-080(5) (state only), respectively.

Notification must be given to Health within 24 hours [or during the course of the next normal business day] from the time of discovery¹ of the condition or emission which would require notification pursuant to WAC 246-247-080(5) (state only). Such notification is required for other than normal operations when a potential or actual release of radionuclides to the air is due to any one or more of the following:

1. non-routine bypass or failure of required abatement control technology identified in Tables 1.1 and 1.2 of Attachment 2

¹ Qualitative determination that a potential threat to public health or safety exists or existed after an evaluation of pertinent information.

2. non-routine and/or unexpected operational changes affecting emissions
3. an exceedance of the dose standard of 10 mrem/y for the Hanford Site
4. an exceedance of emission limits or conditions in a regulatory order (e.g., Notices of Construction, enforcement actions, or license).

The facility shall file a report of closure with the department whenever operations producing emissions of radioactive material are permanently ceased at any emission unit (except temporary emission units) regulated under this chapter. The closure report shall indicate whether, despite cessation of operations, there is still a potential for radioactive air emissions and a need for an active or passive ventilation system with emission control and/or monitoring devices. If decommissioning is planned and will constitute a modification, a NOC is required, as applicable, in accordance with WAC 246-247-060. **[WAC 246-247-080(6)]**

The licensee shall respond in writing in a timely manner, or within a time limit set by Health per WAC 246-247-080(11) (state only), to inspection results which require the facility to implement corrective actions or any other actions so directed by Health.

The permittee may seek to establish that excess emissions were unavoidable due to startup or shutdown conditions, maintenance, or upset conditions, in accordance with WAC 173-400-107. The permittee may also seek to establish that noncompliance with a technology-based² emission limitation under this permit was due to an emergency³, in accordance with WAC 173-401-645. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
2. the permitted facility was at the time being properly operated;
3. during the period of the emergency the permittee did not allow the condition to persist and took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and
4. the permittee submitted notice of the emergency to Ecology (non-radiological emissions) and Health (radiological emissions) within 24 hours of the time when emission limitations were discovered exceeded due to the emergency, and within 12 hours when there is a threat to human health. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirements of WAC 173-401-615.

[WAC 173-400-107, WAC 173-401-615, WAC 173-401-645, WAC 246-247-080 (state only)]

² Technology-based emission limits are those established on the basis of emission reductions achievable with various control measures or process changes (e.g., a new source performance standard) rather than those established to attain a health based air quality standard.

³ An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of this source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes this source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

4.6 Reopening for Cause

The Ecology, and/or Health, or BCAA, acting through Ecology, will reopen and revise this permit, as necessary, in the following circumstances:

- 1) Additional requirements that become applicable to the Hanford Site three or more years prior to the expiration date of this permit. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit, unless the original permit or any terms and conditions have been extended pursuant to WAC 173-401-620(2)(j).
- 2) Ecology, Health, BCAA, or the EPA determines that this permit contains a material mistake or inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
- 3) Ecology, Health, BCAA, or the EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

Reopenings shall not be initiated before a notice of intent to reopen is provided to the permittee by Ecology at least 30 days in advance of the date that this permit is to be reopened, except that Ecology, Health, or BCAA may provide a shorter time period in the case of an emergency.

All permit conditions remain in effect until such time as Ecology takes final action. Respective regulatory agencies may take temporary corrective measures in cases of material mistakes or potential negative impact to public health.

[WAC173-401-730]

4.7 Off-Permit Changes

The permittee is allowed to make certain changes that are not specifically addressed or prohibited by this permit without a permit revision, provided that the conditions cited below are met. Any change that is a Title I modification or is a change subject to the acid rain requirements under Title IV of the FCAA must be submitted as a permit revision. For these off-permit changes, the following conditions apply:

1. No such change may violate any term or condition of this permit or weaken the enforceability of any existing permit conditions.
2. Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition.
3. Before each such change is made, the permittee must provide written notice to the EPA Region X office and the appropriate permitting authority (Ecology, Health, or BCAA), except for changes that qualify as insignificant activities pursuant to WAC 173-401-530. This notice shall describe each change, the date of the change, any change in emissions or pollutants emitted, and any applicable requirement that would apply as a result.

4. The permit shield (WAC 173-401-640) does not apply to changes made under this provision.
5. The permittee shall keep a record describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes.
6. A source making a change under this section shall comply with applicable pre-construction review requirements established pursuant to RCW 70.94.152.
[WAC 173-401-724]

4.8 *Changes Not Requiring Permit Revisions*

a) General Conditions

The permittee is allowed to make a limited class of changes to the express terms of this permit without applying for a permit revision, provided the changes do not result in emissions which would exceed the emissions allowable under this permit and are not Title I modifications. This class of changes does not include:

- 1) changes that would violate applicable requirements; or
 - 2) changes that alter permit terms or conditions that are necessary to enforce limitations on emissions from units covered by this permit.
- b) The permittee is allowed to make FCAA, Section 502(b)(10) changes as defined in WAC 173-401-200(28) without a permit revision.

The permittee is required to send a written notice to EPA Region X and either Ecology, Health, or BCAA, as appropriate, at least 7 days in advance of any change made under this provision. The notice must describe the change, the date on which it will occur, and any change in emissions, and identify any permit terms or conditions made inapplicable as a result of the change. The permittee shall attach each notice to its copy of this permit. Any permit shield provided in this permit does not apply to changes made under this provision.

[WAC 173-401-722]

4.9 *Monitoring*

Under the requirements of WAC 246-247-075(9), Health may conduct an environmental surveillance program to ensure that radiation doses to the public from emission units are in compliance with applicable standards. Health may require the operator of an emission unit to conduct stack sampling, ambient air monitoring, or other testing as necessary to demonstrate compliance with the standards in WAC 246-247-040.

4.10 Compliance Schedules

The schedules in this section are identified pursuant to WAC 173-401-630(3).

NESHAP FFCA (The FFCA Compliance Schedule is a standalone document, see Attachment 4.)

A Federal Facility Compliance Agreement (FFCA) between EPA Region 10 and DOE was signed February 7, 1994. The purpose of the FFCA is to provide a compliance plan and schedule to bring certain existing Hanford Site stack sampling/monitoring systems into compliance with requirements in 40 CFR 61, Subpart H.

For those schedules of compliance identified in this section, the permittee shall report progress against the compliance schedule on a semiannual basis in accordance with Section 4.3.3. The progress report shall contain the date(s) for achieving compliance, the date(s) when compliance was achieved, and provide an explanation of why any date(s) in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

[WAC 173-401-630(4)]

4.11 New Source Review Applicability

The permittee is not allowed to construct or operate new or modified emission units without prior approval pursuant to the new source review requirements except as allowed by regulations. Additionally, before a deactivated emission unit is re-activated, an applicable requirements assessment shall be performed. This applicable requirements assessment shall include a determination of the applicability of the new source review requirements.

[WAC 173-400-110, WAC 173-460-040 (state only), and WAC 246-247-060 (state only)]

4.12 Emission Standards and Controls for Sources Emitting Gasoline Vapors

Stage 1 requirements are applicable to twenty eastern Washington counties (including Benton County) with new gasoline dispensing facilities greater than 10,000 gallons storage capacity (see Table 1.7 in Attachment 1). Total annual throughput records shall be maintained for the most recent two year period.

[WAC 173-491]

4.13 Stratospheric Ozone Protection

The permittee shall comply with the labeling, procurement, maintenance, service, repair, and disposal standards relevant to stratospheric ozone protection under 40 CFR 82. Records shall be maintained as required.

[40 CFR 82]

4.14 Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)(7).

This facility is subject to part 68 and shall certify compliance with all requirements of 40 CFR part 68 as part of the annual compliance certification as required by 40 CFR § 70.6(c)(5). This requirement applies to 283-W Water Treatment Plant for the risk management of potential accidental release of Chlorine (see Table 1.7 in Attachment 1).

[40 CFR 68.215]

4.15 Approval Order Terms and Conditions that Become Irrelevant During the Term of this Permit.

Nothing herein shall be construed to preclude the permittee from making changes consistent with Chapter 401 that would render existing permit compliance terms and conditions irrelevant.

[(WAC 173-401-725(4)(a)]

5. Permit Shield

5.1 *Applicable Requirements*

Compliance with the permit conditions that are specifically identified in the Standard Terms and Conditions and General Conditions sections (Sections 3 and 4) and Attachments 1 and 2 shall be deemed compliant with the applicable requirements upon which that condition is based, as of the date of permit issuance. The permit shield does not apply to insignificant emission units or activities identified in WAC 173-401-530.

Exclusions:

Nothing in this permit shall alter or affect the liability of the permittee for:

- 1) The provisions of Section 303 of the FCAA (emergency orders), including the authority of the administrator under that section;
 - 2) The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
 - 3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the FCAA;
 - 4) The ability of EPA to obtain information from a source pursuant to section 114 of the FCAA; or
 - 5) The ability of Ecology to establish or revise requirements for the use of reasonably available control technology (RACT) as provided in chapter 252, Laws of 1993.
- [WAC 173-401-640(1)]

5.2 *Inapplicable Requirements*

Ecology has determined that the Hanford Site, including all sources, are not subject to certain requirements. In accordance with the provisions of WAC 173-401-640(2), inapplicable requirements at the time of permit issuance are shown below in Table 5.1. The permit shield shall apply to these inapplicable requirements.

[WAC 173-401-640(2)]

TABLE 5.1 INAPPLICABLE REQUIREMENTS

Requirement	Reason for inapplicability
WAC 173-400-040(3)(b)	The site is not located in a nonattainment area.
WAC 173-400-040(8)(b)	The site has not been indicated as a significant contributor to a PM-10 nonattainment area.
WAC 173-400-060	No general process units have been identified on the Hanford Site

Requirement	Reason for inapplicability
WAC 173-400-070	None of the facilities described exist on the site.
WAC 173-400-105(5)(b)(c)(d)	No facilities as described exist on the Hanford Site.
WAC 173-400-112	The Hanford Site is not located in a nonattainment area.
WAC 173-400-151	The Hanford Site has not been identified as a cause or contributor to visibility impairment in any mandatory Class I area.
WAC 173-400-190	The Hanford Site is not located in a nonattainment area.
WAC 173-400-210	The Hanford Site has always been regulated by Ecology. No local authority has previously regulated the Hanford Site.
WAC 173-421, Motor Vehicle Emission Control Systems	The site is not located in a noncompliance area or emission contributing area requiring a vehicle inspection program.
WAC 173-422, Motor Vehicle Emission Inspection	The site is not located in a noncompliance area or emission contributing area requiring a vehicle inspection program.
WAC 173-490, Emission Standards and Controls for Sources Emitting Volatile Organic Compounds	This supplements WAC 173-400 and applies to VOC sources in ozone nonattainment areas. The site is not located in a designated ozone nonattainment area.
WAC 173-492, Motor Fuel Specifications for Oxygenated Gasoline	The site is not located in the control areas requiring oxygenated gasoline use.
WAC 246-247-060(10)	The permittee does not operate a commercial nuclear power plant.
WAC 246-247-075(5)(7)	The permittee does not have point source emissions from NRC licensed facilities. Any NRC license would be to handle a specific sealed source term.
WAC 463-39, General Regulations for Air Pollution Sources	The site emission sources are not subject to EFSEC jurisdiction/authority.
Preconstruction permits issued under Title I Part D Plan Requirements for Nonattainment Areas WAC 173-400-112	The site and surrounding areas have never been determined to be in non-attainment of NAAQS's, therefore permits under this provision have not been required.
Pre-construction permits issued under Title I Part C (PSD) PSD-X80-14	The facilities identified in PSD-X80-14 have been shut down, therefore no applicable requirements are identified in this permit.
40 CFR 72 – 78 WAC 173-406	Steam generators on the site are not included in the acid rain control program and the site does not opt in at this time.
Benton Clean Air Authority, Regulation 1, Articles 1, 2, 3, 4, 6, 7, 9	Authority to regulate Hanford Site air emissions pre-empted by Ecology (see Statement of Basis), except for Articles 5 and 8.

5.3 *Statement of Basis*

The Statement of Basis (Statement) is issued by the permitting agencies as a separate supporting reference document to this air operating permit. This Statement of Basis is non-enforceable and sets forth the legal and factual basis for the permit conditions. It includes references to the applicable statutory or regulatory provisions, technical supporting information on specific emission units, and clarifications of specific requirements.

[WAC 173-401-700(8)]

March 2001

Attachment 1

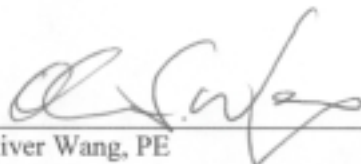
Number: 00-05-006

State of Washington Department of Ecology (Ecology)
Nuclear Waste Program
1315 W. 4th Avenue
Kennewick, WA 99336-6018

The permittee is authorized to operate the air emission units identified in this Air Operating Permit Number 00-05-006 and all insignificant emission units not specifically identified in this permit.

Dated at Richland, Washington this 15th day of March, 2001.

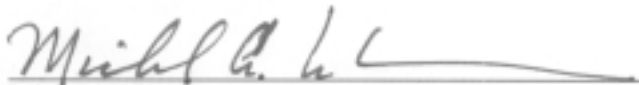
Reviewed by:



Oliver Wang, PE
Title V Permit Professional Engineer Reviewer
State of Washington Department of Ecology

3/16/2001
Date

Approved by:



Michael Wilson
Program Manager, Nuclear Waste Program
State of Washington Department of Ecology

3/22/01
Date

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1. Emission Standards and Limitations

1.1 Insignificant Emission Units

Compliance with the cited applicable requirements in Table 1.2 (see Section 1.3) is required. However, the periodic monitoring, testing, recordkeeping, or reporting requirements listed in Table 1.2 are not required. Also the compliance certification is not required for insignificant emission units.

Some emission units not identified in Table 1.1 are subject to 40 CFR 61 Subpart H (see Attachment 2) and the general applicable requirements cited in Table 1.2 (see Section 1.3), but have been determined to represent insignificant sources of non-radioactive regulated air pollutants. For these emission units no additional monitoring, reporting, or recordkeeping is necessary to determine compliance with the requirements in Table 1.2. These emission units need not be individually listed in the annual compliance certification unless there were observed, documented, or known instances of non-compliance during the certification period. All requirements identified in Attachment 2 for this category of emission unit continue to apply, as well as the requirement to annually certify compliance to any applicable requirements identified in Attachment 2.

[WAC 173-401-530(2)(b) and (2)(c)]

1.2 Emission Units And Activities Subject To Monitoring, Reporting, Recordkeeping, and Compliance Certification

Table 1.1 identifies those emission units on the Hanford Site subject to the requirement to annually certify compliance with the terms and conditions of this permit. The emission units listed in this table are subject to the generally applicable requirements in Table 1.2 (see Section 1.3) unless emission unit-specific requirements for these emission units are found in Tables 1.3, 1.4, 1.5, 1.6, or 1.7.

TABLE 1.1. LIST OF SIGNIFICANT EMISSION UNITS

Fossil-Fuel Fired Steam Generating Units: (See Table 1.3 for applicable requirements)				
<i>200 Area/300 Area Steam Generating Units</i>				
Boiler Annex		Boiler HP	Fuel	Subject to WAC 173-400-115, Subpart Dc, Standards of Performance for New Sources
200CC	Boiler 1	80	fuel oil	No
225-B	Boiler 1	150	fuel oil	No
275-E	Boiler 1	80	fuel oil	No
272-W	Boiler 1	250	fuel oil	No
222-S	Boiler 1	200	fuel oil	No
	Boiler 2	200	fuel oil	No
283-W	Boiler 1	200	fuel oil	No
283-E	Boiler 1	200	fuel oil	No
234-5Z	Boiler 1	350	fuel oil	Yes
	Boiler 2	350	fuel oil	Yes
	Boiler 3	350	fuel oil	Yes

Fossil-Fuel Fired Steam Generating Units: (See Table 1.3 for applicable requirements)				
<i>200 Area/300 Area Steam Generating Units</i>				
Boiler Annex		Boiler HP	Fuel	Subject to WAC 173-400-115, Subpart Dc, Standards of Performance for New Sources
242-A	Boiler 1	200	fuel oil	No
	Boiler 2	700	fuel oil	Yes
	Boiler 3	700	fuel oil	Yes
305	Boiler 1	40	natural gas	No
306-E	Boiler 1	150	natural gas	No
318	Boiler 1	30	natural gas	No
320	Boiler 1	100	natural gas	No
	Boiler 2	100	natural gas	No
323	Boiler 1	50	natural gas	No
324	Boiler 1	300	natural gas	Yes
	Boiler 2	300	natural gas	Yes
325	Boiler 1	125	natural gas	No
	Boiler 2	125	natural gas	No
326	Boiler 1	100	natural gas	No
	Boiler 2	100	natural gas	No
327	Boiler 1	200	natural gas	No
328	Boiler 1	30	natural gas	No
329	Boiler 1	50	natural gas	No
	Boiler 2	50	natural gas	No
	Boiler 3	50	natural gas	No
	Boiler 4	50	natural gas	No
331	Boiler 1	300	natural gas	Yes
	Boiler 2	300	natural gas	Yes
337-B	Boiler 1	60	natural gas	No
	Boiler 2	60	natural gas	No
382-A-D	Boiler 1	200	natural gas	No
3705	Boiler 1	15	natural gas	No
3706	Boiler 1	80	natural gas	No
3717	Boiler 1	80	natural gas	No
3717B	Boiler 1	80	natural gas	No
3709A	Boiler 1	15	natural gas	No
3720	Boiler 1	125	natural gas	No
3745	Boiler 1	15	natural gas	No

<i>EMSL (See Table 1.6 for applicable requirements)</i>			
Emission Point ID	Boiler Rating	Fuel	Subject to WAC 173-400-115, Subpart Dc, Standards of Performance for New Sources
300 EP-3020-07-S	5.0 MMBTU/hr	natural gas (fuel oil backup)	No
300 EP-3020-08-S	5.0 MMBTU/hr	natural gas (fuel oil backup)	No
300 EP-3020-09-S	5.0 MMBTU/hr	natural gas (fuel oil backup)	No

**Internal Combustion Engines, 500 Horsepower and Greater:
(See Table 1.4 for applicable requirements)**

200E E-225BC 001
200E E-225BG 001

200E E-282ED 001, Engine E (See Table 1.6)
200W E-282WD 001, Engine W (See Table 1.6)

300 E-900 001
300 E-1000 001

300 E-900 002
300 E-1450 001

300 E-900 003
300 EP-3020-12-S (See Table 1.6)

400 E-1500 001, DG-1
400 E-1500 002, DG-2

400 E-4250 001, G-3
600 E WSCF 001

All Emission Points Exceeding Insignificant Emission Point Thresholds or Subject to a Federally Enforceable Applicable Requirement, Excluding Fossil-Fueled Combustion Units or Internal Engines: (See Table 1.5 for applicable requirements)	
200E P-244CR 001 (CR Vault)	200E P-296AN 001 (Tank Exhauster)
200W P-296SY 001 (Exhauster)	200E P-296AP 001 (Tank Exhauster)
200W P-296P028 001 (Backup Exhauster for 200W P-296SY 001)	200E P-296AW 001 (Tank Exhauster)
200W P-296SX 001 (Exhauster)	200E P-296A042 001 (Tank Exhauster)

Emission Units with NOC Approval Conditions: (See Table 1.6 for applicable requirements)		
Area	Emission Point	Project Title
100K	Cold Vacuum Drying	Cold Vacuum Drying - Phase II
100K	N-1724K 001	1724K Building Maintenance Shop
200	200 Area Emissions	NOC for installation and operation of a waste retrieval system in double-shell tanks.
200	P-296P033-001& P-296P034-001	Rotary Mode Core Sampling (RMCS) Systems 3 & 4 and Modification to 2, Revision 1
200	W-PORTEX 020	Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, Revision 2
200E	C-106 Sluicing	241-C-106 Tank Sluicing, Phase II
200E	E-282ED-001	Emergency Fire Pump Generators
200E	P-2025E ETF	200 Area Effluent Treatment Facility (ETF)
200E	P-296A042-001	241-AZ-101 Tank Waste Retrieval and 241-AY/241-AZ Tank Farms Ventilation Upgrades, Project W-151 and Project W-030
200W	E-282WD 001	Emergency Fire Pump Generators
200W	J-CWC 001	Storage of Vented Waste Containers at Central Waste Complex
200W	P-WRAP1 001	Waste Receiving and Processing (WRAP1)
200W	S-296S021-001	222-S Lab Hot Cell Expansion
300	EP-3020-01-S through EP-3020-12-S	Construction and operation of Environmental Molecular Sciences Laboratory (EMSL) emission points
300	EP-305B-02-V	305-B Building Gas Cylinder Management Process
300	EP-325-01-S	325 Building Hazardous Waste Treatment Unit (HWTU)

Emission Units with NOC Approval Conditions: (See Table 1.6 for applicable requirements)		
300	EP-329-01-S	Chemical Sciences Laboratory, 329 Building Modification and Ventilation Upgrades
300	EP-331-01-V	Life Sciences Laboratory I (Building 331) Modifications
300	P-340NTEX-001	340-A Building Tank Solids Removal

Miscellaneous Emission Units (See Table 1.7 for applicable requirements)	
Hanford Site Asbestos Landfill	181B-66 (Underground Tank)
600 G-6290 (600 Area Gasoline Distribution)	283-W Water Treatment Plant (Chlorine Tank)

1.3 General Standards for Maximum Emissions

The following general regulatory requirements, emission limits, or work practice standards apply to all emission units [see definition of emission units in WAC 173-401-200(11)] on the Hanford Site.

The general standards in Table 1.2 are the applicable requirement, emission limit, or work practice standard unless replaced by another requirement in Tables 1.3, 1.4, 1.5, 1.6 or 1.7.

TABLE 1.2. GENERAL STANDARDS FOR MAXIMUM EMISSIONS

Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit, or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Periodic Monitoring Provisions	Test Method ¹
WAC 173-400-040(1)	20% Opacity Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (See 2.8)	Visible Emission Surveys	2.1	Ecology Method 9A
WAC 173-400-040(2)	Fallout Prohibits emissions of particulate matter from any source to be deposited beyond the facility boundaries in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material was deposited.	Y	Recordkeeping of complaint investigation	2.2	
WAC 173-400-040(3)(a)	Fugitive emissions The permittee shall take reasonable precautions to prevent the release of air contaminants from any emissions unit engaging in	N	Pre-job planning to determine reasonable control measures	2.3	

Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit, or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Periodic Monitoring Provisions	Test Method ¹
	materials handling, construction, demolition, or any other operation that is a source of fugitive emissions.				
WAC 173-400-040(4)	Odor Requires any facility causing an odor that unreasonably interferes with another person's use and enjoyment of their property to use recognized good practices and procedures to reduce odors to a reasonable minimum.	Y	Recordkeeping of complaint investigations	2.2	
WAC 173-400-040(5)	Emissions detrimental to persons or property Prohibits emissions of any air contaminant from any source which is detrimental to the health, safety, or welfare of any person, or causes damage to property or business	N	Recordkeeping of complaint investigation	2.2	
WAC 173-400-040(6)	1000 ppm SO ₂ @ 7% O ₂ on a dry basis Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (see 2.9)	For fossil-fuel combustion units: Recordkeeping or certification	2.7	EPA Method 6 or 6C of 40 CFR 60, App. A
WAC 173-400-040(7)	Concealment and masking Prohibits the installation of use of any device or use of any means that conceals or masks an emission of an air	N	Recordkeeping of complaint investigation	2.2	

Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit, or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Periodic Monitoring Provisions	Test Method ¹
	contaminant that would otherwise violate any provision of WAC 173-400.				
WAC 173-400-040(8)(a)	Fugitive dust Requires reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize dust generation.	N	Pre-job planning to determine reasonable control measures	2.3	
WAC 173-400-040 1 st ¶	Reasonably available control technology (RACT)	N	Permit terms considered RACT	2.4	

¹ The Test Methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

1.4 Emission Unit Specific Applicable Requirements

Process: Fossil Fuel Fired Steam Generating Units

TABLE 1.3. EMISSION LIMITS AND PERIODIC MONITORING REQUIREMENTS FOR STEAM GENERATING UNITS.

Boiler Annex		>5mmBTU/hr input	Fuel		Boiler Annex		>5mmBTU/hr input	Fuel
200CC	Boiler 1	No	fuel oil		326	Boiler 1	No	natural gas
225-B	Boiler 1	Yes	fuel oil			Boiler 2	No	natural gas
275-E	Boiler 1	No	fuel oil		327	Boiler 1	Yes	natural gas
272-W	Boiler 1	Yes	fuel oil		328	Boiler 1	No	natural gas
222-S	Boiler 1	Yes	fuel oil		329	Boiler 1	No	natural gas
	Boiler 2	Yes	fuel oil			Boiler 2	No	natural gas
283-W	Boiler 1	Yes	fuel oil			Boiler 3	No	natural gas
283-E	Boiler 1	Yes	fuel oil			Boiler 4	No	natural gas
234-5Z	Boiler 1	Yes	fuel oil		331	Boiler 1	Yes	natural gas
	Boiler 2	Yes	fuel oil			Boiler 2	Yes	natural gas
	Boiler 3	Yes	fuel oil		337-B	Boiler 1	No	natural gas
242-A	Boiler 1	Yes	fuel oil			Boiler 2	No	natural gas
	Boiler 2	Yes	fuel oil			Boiler 1	Yes	natural gas
	Boiler 3	Yes	fuel oil		3705	Boiler 1	No	natural gas
305	Boiler 1	No	natural gas		3706	Boiler 1	No	natural gas
306-E	Boiler 1	Yes	natural gas		3717	Boiler 1	No	natural gas
318	Boiler 1	No	natural gas		3717B	Boiler 1	No	natural gas
320	Boiler 1	No	natural gas		3709A	Boiler 1	No	natural gas
	Boiler 2	No	natural gas		3720	Boiler 1	Yes	natural gas
323	Boiler 1	No	natural gas		3745	Boiler 1	No	natural gas
324	Boiler 1	Yes	natural gas					
	Boiler 2	Yes	natural gas					
325	Boiler 1	No	natural gas					
	Boiler 2	No	natural gas					

Description	Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Test Method ¹
Steam generating units <5mmBTU/hr listed above	WAC 173-400-040(1)	20% Opacity Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water	N (see 2.8)	Fuel-oil Fired Boilers Method: Visible emission surveys, Section 2.1 Tier 1 Frequency: At least once per calendar year quarter Natural gas-fired boilers Method: Visible emission surveys, Section 2.1, Tier 2 Frequency: At least once per quarter	Method: Ecology 9A Frequency: Not Applicable
Fossil-fuel fired steam generating units less than 5 mmBTU/hr	WAC 173-400-040(6)	1000 ppm SO ₂ @ 7% O ₂ on a dry basis Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (see 2.9)	Fuel-oil fired units: Method: See Section 2.7, Tier 1 Frequency: At least annually	EPA Method 6 or 6C of 40 CFR 60, App. A
	WAC 173-400-050(1) & (3)	particulate matter #0.23 gram per dry cubic meter at standard conditions (0.1 grain/dscf) adjusted for volumes corrected to 7% O ₂	N	Recordkeeping. See 2.5	EPA Method 5 or approved procedure in "Source Test Manual - Procedures for Compliance Testing", 7/12/90

Description	Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Test Method ¹
Standards of performance for new sources Small industrial-commercial- institutional steam generating units 234-5Z Boiler 1 234-5Z Boiler 2 234-5Z Boiler 3 242-A Boiler 2 242-A Boiler 3	40 CFR 60 Subpart Dc WAC 173-400-115	#0.5 weight percent sulfur fuel (see NOC 97NM-138 condition listed below)	N	Fuel supplier certifications and quarterly report. See 2.6 Recordkeeping.	
No. 2 Distillate Fuel-oil Fired Steam Generating Units Greater than or equal to 5 mmBTU/hr	97NM-138	0.05% sulfur distillate fuel oil will be used in the 200 Areas; natural gas will be used in the 300 Area.	N	Recordkeeping. See 2.5	
		No _x Shall not exceed 0.150 lb/mmBTU and 115 ppm @ 3% O ₂	N	Recordkeeping. See 2.5	
			N	Once every 5 years after startup. See 2.6	EPA Method 7E of 40 CFR 60, App. A
		SO ₂ shall not exceed 0.051 lb/mmBTU	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 6 or 6C of 40 CFR 60, App. A

Description	Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Test Method ¹
No. 2 Distillate Fuel-oil Fired Steam Generating Units Greater than or equal to 5 mmBTU/hr (cont.)	97NM-138 (cont.)	CO shall not exceed 0.071 lb/mmBTU and 90 ppm @ 3% O ₂	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 10 of 40 CFR 60, App. A
		Particulate Matter (PM ₁₀) shall not exceed 0.011 lb/mmBTU	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 5 of 40 CFR 60, App. A
		VOC shall not exceed 0.013 lb/mmBTU and 30 ppm @ 3% O ₂	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 25 or 25A of 40 CFR 60, App. A
Natural Gas-Fired Greater than or equal to 5 mmBTU/hr	97NM-138	NO _x shall not exceed 0.037 lb/mmBTU and 30 ppm @ 3% O ₂	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 7E of 40 CFR 60, App. A
		CO shall not exceed 0.225 lb/mmBTU and 300 ppm @ 3% O ₂	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 10 of 40 CFR 60, App. A
		Particulate Matter (PM ₁₀) shall not exceed 0.012 lb/mmBTU	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 5 of 40 CFR 60, App. A

Description	Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Test Method ¹
Natural Gas-Fired Greater than or equal to 5 mmBTU/hr (cont.)	97NM-138 (cont.)	VOC shall not exceed 0.013 lb/mmBTU and 30 ppm @ 3% O ₂	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 25 or 25A of 40 CFR 60, App. A
		SO ₂ shall not exceed 0.0006 lb/mmBTU	N	Recordkeeping. See 2.5.	
			N	Once every 5 years after startup. See 2.6.	EPA Method 6 or 6C of 40 CFR 60, App. A

General Conditions:

- Operation and Maintenance Manuals will be obtained from the manufacturer(s) and made available for review by Ecology on request.
- "Good combustion practices" will be applied to all boilers. Good combustion practices include but are not limited to the following:

Daily	Monthly	Semi-annually	Annually	Every two years
Visually check combustion	Inspect burner	Clean and check air supply system	Clean fireside surfaces and breaching	Conduct boiler tuneups on smaller boilers (<5 mmBTU/hr heat input) by manufacturer trained technicians or other qualified personnel. See 2.5 for recordkeeping.
Record available operating data	Inspect boiler exteriors	Clean and check fuel supply system	Conduct boiler tuneups on large boilers (>5 mmBTU/hr heat input) by manufacturer trained technicians or other qualified personnel. See 2.5 for recordkeeping.	
	Check combustion controls	Inspect refractory		
	Check for leaks			
	Check for unusual noise, vibrations, etc.			

¹ The Test Methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

Process: Internal Combustion Engines

TABLE 1.4. INTERNAL COMBUSTION ENGINES: 500 HORSEPOWER AND GREATER

Discharge Point Number	Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Test Method ¹
200E E-225BC 001 200E E-225BG 001 300 E-900 001 300 E-1000 001 300 E-900 002 300 E-1450 001 300 E-900 003 400 E-1500 001, DG-1 400 E-1500 002, DG-2 400 E-4250 001, G-3 600 E WSCF 001	WAC 173-400-040(1)	20% Opacity Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (see 2.8)	Method: See Section 2.1, Tier 1 Frequency: At least once per calendar quarter, if operated.	Ecology Method 9A
	WAC 173-400-040(6)	1000 ppm SO ₂ @ 7% O ₂ on a dry basis Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (see 2.9)	See Section 2.7, Tier 1.	EPA Method 6 or 6C of 40 CFR 60, App. A

¹ The Test Methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

Process: Emission Units Exceeding Insignificant Emission Unit Thresholds

TABLE 1.5. PROCESSES AND EMISSION UNITS EXCEEDING INSIGNIFICANT EMISSION UNIT THRESHOLD, EXCLUDING COMBUSTION PROCESSES

Discharge Point Number	Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Test Method ¹
Units with HEPA filtration 200E P-244CR 001 (CR Vault) 200W P-296SY 001 (Exhauster) 200W P-296P028 001 (Backup Exhauster for 200W P-296SY 001) 200E P-296AN 001 (Tank Exhauster) 200W P-296SX 001 (Exhauster) 200E P-296AP 001 (Tank Exhauster) 200E P-296AW 001 (Tank Exhauster) 200E P-296A042 001 (Tank Exhauster)	WAC 173-400-040(1)	20% Opacity Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (see 2.8)	Units with HEPA filtration: See Section 2.1, Tier 3	Ecology Method 9A
	WAC 173-400-040(6)	1000 ppm SO ₂ @ 7% O ₂ on a dry basis Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (see 2.9)	See Section 2.7, Tier 2	EPA Method 6 or 6C of 40 CFR 60, App. A

¹ The Test Methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

Process: NOC Approval Order Conditions

TABLE 1.6 EMISSION LIMITS AND PERIODIC MONITORING REQUIREMENTS FOR EMISSION UNITS WITH NOC APPROVAL CONDITIONS.

The emission units identified in this table are those emission units that have received an Ecology approval order to operate under WAC 173-400-110 New Source Review and/or WAC 173-460-040

Requirement Citation (WAC or Order Citation)	Regulatory Requirement, Emission Limit or Work Practice Standard	State Only Enforceable	Periodic Monitoring	Test Method ¹
WAC 173-400-040(1)	20% Opacity Prohibits visible emissions exceeding 20% opacity for more than 3 minutes in any 1 hour of an air contaminant from any emissions unit or within a reasonable distance of the emission unit except for scheduled soot blowing/grate cleaning or due to documented water.	N (see 2.8)	See Section 2.1, Unless an alternative visible emissions, opacity, or particulate matter emission limit is identified in Table 1.6.	Ecology Method 9A
WAC 173-400-040(6)	1000 ppm SO ₂ @ 7% O ₂ on a dry basis Prohibits emission of a gas containing sulfur dioxide from any emissions unit in excess of 1000 ppm of a dry basis, corrected to 7% oxygen for combustion sources, and based on the average of any period of 60 consecutive minutes.	N (see 2.9)	See Section 2.7, Tier 2, Unless an alternative SO ₂ emission limit is identified in Table 1.6.	EPA Method 6 or 6C of 40 CFR 60, App. A

Discharge Point **100K Cold Vac. Drying**
 Number: Cold Vacuum Drying - Phase II

Requirement Citation (WAC or Order Citation): 97NM-022

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 3/7/97</i> Approval to construct and install process equipment.	None	N	Method: Not Specified Frequency: Not Applicable	None	Not Applicable

Discharge Point **100K N-1724K 001**
 Number: 1724K Building Maintenance Shop

Requirement Citation (WAC or Order Citation): 97NM-551

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 1/29/98</i> Particulate Matter (PM): For welding, use of a commercially available portable fume exhauster is required containing a two stage electrostatic precipitator (filter) that removes 98 percent of the particulates. For abrasive blasting, use of a commercially available ventilation sytem containing a cloth bag filtration system. For sawdust, use of a cyclone separator and bag filter prior to discharge to the atmosphere.	Startup inspection	N	Method: Not Specified Frequency: Not Applicable	1. Inspection records 2. Work procedures	Not Applicable
<i>Condition Approval Date: 1/29/98</i> Volatile Organic Compounds: Use of an activated charcoal filter is required. The filter shall be examined and replaced when it becomes loaded.	Filter maintenance inspections	N	Method: Not Specified Frequency: Not Applicable	1. Maintenance records and schedules	Not Applicable

Discharge Point **200 Area Emissions**

Number: NOC for installation and operation of a waste retrieval system in double-shell tanks.

Requirement Citation (WAC or Order Citation): DE00NWP-001

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<p><i>Condition Approval Date: 6/13/00</i></p> <p>Operation of the proposed boilers shall not exceed 720 hours per year per boiler, and be in accordance with good combustion practices (GCP) to minimize emissions, based on the manufacturer's recommendations, and require the use of fuel with a Sulfur content of 0.05% or less. Periodic preventive maintenance and combustion adjustments shall be made, as necessary, to maintain GCP, but at least annually.</p>	Recordkeeping Frequency: Annually	N	Method: Not Specified Frequency: Not Applicable	<p>1. Operating logs showing all hours of operation.</p> <p>2. GCP - Preventive maintenance and combustion adjustment records.</p> <p>3. Records of vendor documentation or fuel analysis documenting procurements of diesel fuel with sulfur content of 0.05% or less once per year.</p>	Not Applicable
<p><i>Condition Approval Date: 6/13/00</i></p> <p>Tanks: A new Notice of Construction will be required, if total emissions of toxic air pollutants exceed the SQER, unless dispersion modeling demonstrates that emissions would continue to result in concentrations less than the ASILs. Results of any such dispersion modeling demonstrations/calculations will be maintained on file at the tank farms and made available upon request.</p>	Analyze each proposed change to determine if emissions would exceed an SQER or ASIL.	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	Not Applicable
<p><i>Condition Approval Date: 6/13/00</i></p> <p>Tanks: Notification will be made ten (10) days prior to initiating waste retrieval operations in each tank covered by this order.</p>	Recordkeeping	Y	Method: Not Specified Frequency: Not Applicable	1. Copy of notification	Not Applicable

Discharge Point **200 Area Emissions**

Number: NOC for installation and operation of a waste retrieval system in double-shell tanks.

Requirement Citation (WAC or Order Citation): DE00NWP-001

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 6/13/00</i> An updated schedule of installation and operation activities will be made available upon request.	Recordkeeping	Y	Method: Not Specified Frequency: Not Applicable	1. Copy of updated schedule	Not Applicable
<i>Condition Approval Date: 6/13/00</i> The data obtained in the course of monitoring worker exposure will be used by the Permittee as an administrative control measure to verify that VOC emissions do not exceed 500 parts per million (PPM). The 500 PPM level will be used as an indicator to facilitate field monitoring of potential VOC emissions, using the existing Industrial Hygiene equipment.	VOC measurements from each stack.	N	Method: Organic Vapor Analyzers (OVAs) or similar instruments Frequency: At least once per year during mixer pump operations. If mixer pumps do not operate, no monitoring is required.	1. VOC measurement	Not Applicable
<i>Condition Approval Date: 6/13/00</i> No visible emissions shall be allowed beyond the property line.	Boilers: See Section 2.1, Tier 1 Frequency: At least once per quarter Tanks: See Section 2.1, Tier 3	N	Method: Not Specified Frequency: Not Applicable	1. Records of visible emissions or opacity readings	Not Applicable
<i>Condition Approval Date: 6/13/00</i> Any modification to any equipment or operating procedures, contrary to information in the NOC application, shall be reported to Ecology at least sixty (60) days before such modification. Such modification may require a new, or amended, NOC Approval Order.	Applicable if triggered	N	Method: Not Specified Frequency: Not Applicable		Not Applicable

Discharge Point **200 P-296P033-001&
Number: P-296P034-001**

Rotary Mode Core Sampling (RMCS) Systems 3 & 4 Requirement Citation (WAC or Order Citation): DE98NWP-005
and Modification to 2, Rev. 1

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 9/3/98</i> The permittee shall conduct a vapor composition analysis for each tank to be core-sampled. The emissions estimates, monitoring and exhauster operation will be conducted as described by the NOC application.	Recordkeeping and emission calculations	N	Method: Not Specified Frequency: Not Applicable	1. Calculations 2. TWINS data	10A & 10B
<i>Condition Approval Date: 9/3/98</i> Emissions of volatile organic compounds (VOCs) on a daily average at the stack, shall not exceed the WAC 173-400-110 NSR thresholds.	Recordkeeping and emission calculations	N	Method: Not Specified Frequency: Not Applicable	1. TWINS data 2. Calculations 3. Operating log	10C
<hr/>					
Discharge Point 200 W-PORTEX 020, 024, and Number: 025 Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, Rev 2					
Requirement Citation (WAC or Order Citation): DE98NWP-006					
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 10/26/98</i> The portable exhausters and other operations associated with salt well pumping activities will be permitted without additional control technology controls provided that the total emissions from all activities will not result in exceedance of WAC 173-460 ASILs and the proposed ASIL values for N-Nitrosomorpholine and nonchlorinated furans.	Analyze total emissions to determine if an ASIL will be exceeded. Frequency: Annually.	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	Not Applicable

Discharge Point **200 W-PORTEX 020, 024, and**
Number: **025**

Portable Exhauster Use On Single Shell (SST) Tanks
During Saltwell Pumping, Rev 2

Requirement Citation (WAC or Order Citation): DE98NWP-006

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 10/26/98</i> A new NOC will be required if total emissions of toxic air pollutants (from the saltwell portable exhauster) exceed the Small Quantity Emission Rates, unless dispersion modeling demonstrates that emissions would continue to result in concentrations less than the ASILs. Results of any such dispersion modeling demonstrations/calculations will be maintained on file at the tank farms and made available upon inspections.	Analyze total emissions to determine if a SQER will be exceeded. Frequency: Not Applicable (conservative worst case calculations were performed in the original NOC application).	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	Not Applicable
<i>Condition Approval Date: 10/26/98</i> Notification will made one week prior to initial start-up of activities covered by this order.	Recordkeeping	N	Method: Not Specified Frequency: Not Applicable	1. Notification documentation	Not Applicable
<i>Condition Approval Date: 10/26/98</i> An updated schedule of salt-well pumping activities will be available upon request.	Recordkeeping	N	Method: Not Specified Frequency: Not Applicable	1. Up-to-date schedule of salt-well pumping activities	Not Applicable

Discharge Point **200 W-PORTEX 020, 024, and**
Number: **025**

Portable Exhauster Use On Single Shell (SST) Tanks
During Saltwell Pumping, Rev 2

Requirement Citation (WAC or Order Citation): DE98NWP-006

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 10/26/98</i> VOCs are not to exceed 50 ppm carbon.	No stack sampling is required. Instruments used to detect fugitive organic emissions are part of Hanford's Industrial Hygiene worker monitoring program will be used to monitor for VOCs a minimum of 3 times: once before exhauster operation begins, once during exhauster operation, and once after exhauster operation is completed.	N	Method: Not Specified Frequency: Not Applicable	1. Records of VOC sample results	Not Applicable
<i>Condition Approval Date: 10/26/98</i> Visible Emissions - No visible emissions shall be allowed beyond the property line as determined by opacity readings when warranted.	See Section 2.1, Tier 3.	N	Method: Ecology Method 9A Frequency: Not Applicable		Not Applicable
<i>Condition Approval Date: 10/26/98</i> Any modification to any equipment or operating procedures, contrary to information in the NOC application, shall be reported to Ecology at least 60 days before such modification. Such modification may require a new or amended NOC approval Order.	Not applicable		Method: Not Specified Frequency: Not Applicable		Not Applicable

Discharge Point 200E C-106 Sluicing Number: 241-C-106 Tank Sluicing, Phase II		Requirement Citation (WAC or Order Citation): NOC revision approval			
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 4/9/99</i> VOC 500 ppm.	Instruments used to detect fugitive organic emissions as part of Hanford's Industrial Hygiene (IH) worker monitoring program will be used to monitor for VOCs during sluicing pump operations.	N	Method: Hanford's IH monitoring program Frequency: Each exhaust operation episode.	1. Records of VOC sample results	Not Applicable
<i>Condition Approval Date: 4/9/99</i> Sluicing operations may only be conducted for 21 days (504) hours per calendar year. Actions shall be taken prior to reaching 500 ppm to limit any excursions above that level. Cumulative sluicing time may be tracked hourly.	Recordkeeping	N	Method: Not Specified Frequency: Not Applicable	1. Operations log showing all hours of sluicing pump operation	Not Applicable
Discharge Point 200E E-282ED 001 Number: Emergency Fire Pump Generators E-282ED 001		Requirement Citation (WAC or Order Citation): NWP-96-1			
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 4/30/96</i> Engine E shall operate no more than 350 hours per year	Recordkeeping	N	Method: Not Specified Frequency: Not Applicable	1. Maintain operations log showing all hours of operation.	Not Applicable

Discharge Point **200E E-282ED 001**Number: Emergency Fire Pump Generators
E-282ED 001

Requirement Citation (WAC or Order Citation): NWP-96-1

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 4/30/96</i> Engine E shall burn only No. 2 fuel oil with sulfur content no more than 0.05 weight percent	Recordkeeping and/or emission calculations	N	Method: Not Specified Frequency: Not Applicable	1. Vendor documentation or fuel analysis once per fuel shipment showing <0.05wt% sulfur.	Not Applicable
<i>Condition Approval Date: 4/30/96</i> NOx 75.5 pounds per hour NOx	Recordkeeping & average fuel consumption rate determination shall be performed at least once per 12 months	N	Method: EPA Method 7A of 40 CFR 60, App. A Frequency: Not Applicable	1. Monthly fuel burned (based on annual fuel consumption record). 2. Hours of operation logged.	2B
<i>Condition Approval Date: 4/30/96</i> 10 % Opacity	See Section 2.1, Tier 1 Frequency: At least once per quarter	N	Method: EPA Method 9 of 40 CFR 60, App. A Frequency: Not Applicable	1. Operations log	Not Applicable

Discharge Point **200E P-2025E ETF**

Number: Effluent Treatment Facility (ETF) (2025 E), Approval Requirement Citation (WAC or Order Citation): NOC-93-3
of NOC Application for Nonradioactive Air Emissions

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 12/20/93</i> Energy shall notify the department in writing at least 45 days before start-up of any emission unit subject to this approval which could cause release of any air pollutants to the atmosphere.	Not Applicable	N	Method: Not Specified Frequency: Not Applicable		Not Applicable
<i>Condition Approval Date: 12/20/93</i> Energy shall not make any changes to the proposed air emission control system which may result in an increase; or change the types of air emissions without first notifying the department. Based on the notification, the department will make a determination whether a new approval or a modification of this final approval is required.	Not Applicable	N	Method: Not Specified Frequency: Not Applicable		Not Applicable
<i>Condition Approval Date: 12/20/93</i> Opacity at each stack 5%	See Section 2.1, Tier 3	N	Method: Not Specified Frequency: Not Applicable	1. As required in Attachment 2, Section 4.2	Not Applicable
<i>Condition Approval Date: 10/16/96</i> Any addition of waste streams that do not meet the new source review exemption in WAC 173-460-040(2)(c) or that have previously unidentified constituents to the facility requires prior review and approval by the Department of	Analyze each waste stream to determine if emissions would exceed an SQER or ASIL	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analysis.	7C

Discharge Point **200E P-296A042-001**

Number: 241-AZ-101 Tank Waste Retrieval and
241-AY/241-AZ Tank Farms Ventilation Upgrades,
Project W-151 and Project W-030

Requirement Citation (WAC or Order Citation): NOC 94-07

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 8/29/94</i> Ammonia 0.05 lbs/hr	Recordkeeping, measurements, and emission calculations	N	Method: Field instruments, which may include Draeger Tubes Frequency: Annually	1. Stack flow measurements. 2. Record field instrument or Draeger Tube ammonia concentrations.	5
<i>Condition Approval Date: 8/29/94</i> Opacity 5%	See Section 2.1, Tier 3	N	Method: EPA Method 9 of 40 CFR Part 60, App. A Frequency: Not Applicable	1. As required in Attachment 2, Section 4.2	Not Applicable
<i>Condition Approval Date: 12/22/97</i> VOC max emission limit, 50 ppm, measured as Total Organic Carbon	Recordkeeping, measurements, and emission calculations	N	Method: EPA Method 25A or approved alternative Frequency: Annually	1. Organic vapor sampling data.	4A

Discharge Point **200W CWC**

Number: Nonradioactive NOC Approval for the Central Waste Complex for Storage of Vented Waste Containers. Requirement Citation (WAC or Order Citation): DE00NWP-002

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 6/30/00</i> No visible emissions shall be allowed beyond the property line.	Operator observations per Section 2.1, Tier 1. Frequency: At least annually.	N	Method: Not Specified Frequency: Not Applicable	1. Operating log.	Not Applicable
<i>Condition Approval Date: 6/30/00</i> Any modification to any equipment or operating procedures, contrary to information in the NOC application, shall be reported to Ecology at least sixty (60) days before such modification. Such modification may require a new, or amended, NOC approval Order.	Recordkeeping Frequency: sixty (60) days before any modification	Y	Method: Not Specified Frequency: Not Applicable	1. Records of any equipment or procedure modifications.	Not Applicable
<i>Condition Approval Date: 6/30/00</i> A new/modified NOC will be required, if total emissions of toxic air pollutants exceed the Small Quantity Emission Rates, unless dispersion modeling demonstrates that emissions would continue to result in concentrations less than the ASILs. Results of any such modeling demonstrations/calculations will be on file at the facility and made available upon inspection.	Analyze total emissions to determine if an ASIL will be exceeded. Frequency: Not Applicable (conservative worst case calculations were performed in the original NOC application).	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	Not Applicable
<i>Condition Approval Date: 6/30/00</i> An annual assessment of SWITS shall be conducted to document compliance that no monitoring and/or sampling systems are needed. This assessment will be reported annually beginning as part of the Calendar Year 1999 nonradioactive inventory of airborne emissions.	Conduct an assessment of SWITS data and publish results.	Y	Method: Not Specified Frequency: Annually	1. Analysis of SWITS data.	Not Applicable

Discharge Point **200W E-282WD 001**Number: Emergency Fire Pump Generators
E-282WD 001

Requirement Citation (WAC or Order Citation): NWP-96-1

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 4/30/96</i> Engine W shall operate no more than 350 hours per year.	Recordkeeping	N	Method: Not Specified Frequency: Not Applicable	1. Maintain operations log showing all hours of operation	Not Applicable
<i>Condition Approval Date: 4/30/96</i> Engine W shall burn only No. 2 fuel oil with sulfur content no more than 0.05 weight percent	Recordkeeping and/or emission calculations	N	Method: Not Specified Frequency: Not Applicable	1. Vendor documentation or fuel analysis once per fuel shipment showing <0.05wt% sulfur.	Not Applicable
<i>Condition Approval Date: 4/30/96</i> NOx 42 pounds per hour	Recordkeeping & average fuel consumption rate determination shall be performed at least once per 12 months	N	Method: EPA Method 7A of 40 CFR 60, App. A Frequency: Not Applicable	1. Monthly fuel burned (based on annual fuel consumption record). 2. Hours of operation logged.	2B
<i>Condition Approval Date: 4/30/96</i> 10 % Opacity	See Section 2.1 Frequency: At least once per quarter	N	Method: EPA Method 9 of 40 CFR 60, App. A Frequency: Not Applicable		Not Applicable

Discharge Point 200W P-WRAP1 001 Number: Waste Receiving and Processing (WRAP1)		Requirement Citation (WAC or Order Citation): NOC 93-05			
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date:</i> 12/13/93 After start-up (i.e., start of processing of TRU retrieval material) of the facility, RL shall conduct performance tests for VOCs. After these tests, Ecology may require RL to conduct an annual test(s) for those pollutants. RL and Ecology shall meet before the testing occurs to discuss the testing protocol. Testing shall occur only after Ecology approves the plan. ² Energy shall submit a test plan at least 45 days before testing for Ecology approval. Testing results must be reported to the Department within 60 days after the test completion. Energy shall notify the department 7 days before each test date.	Once: after start of processing of TRU retrieval material	N	VOC EPA Method 25 or 25A of 40 CFR 60, App. A Frequency: Ecology may require RL to conduct an annual test(s) for those pollutants.	1. Meeting minutes/notes. 2. Test plan. 3. Test results.	Not Applicable
Discharge Point 200W S-296S021-001 Number: 222-S Lab Hot Cell Expansion		Requirement Citation (WAC or Order Citation): Letter			
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date:</i> 7/13/92 Any toxic air release must be below detection limits.	No monitoring required beyond initial test.	N	Method: Not Specified Frequency: Not Applicable	None	Not Applicable

² If the approved EPA test references are not used, the public will be provided with an opportunity to review the test plan.

Discharge Point **300 EP-3020-01-S**

Number: Construction and operation of Environmental Molecular Sciences Laboratory (EMSL) emission points

Requirement Citation (WAC or Order Citation): NOC-94-08

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date:</i> 9/12/94 5 % Opacity (300 EP-3020-01-S stack with HEPA filters air emission controls)	See Section 2.1, Tier 3	N	Method: Ecology Method 9A Frequency: Not Applicable	1. Maintenance records and procedures, See Attachment 2, Section 4.2	Not Applicable
<i>Condition Approval Date:</i> 6/13/00 Environmental Molecular Sciences Laboratory (EMSL) research projects, supporting operations, and building equipment additions and changes including control systems, can be made to accommodate changing research and support requirements. These changes can be made without filing a Notice of Construction (NOC), provided the total building emissions meet the acceptable source impact levels (ASILs) and the Washington Administrative Code (WAC) 173-400-110 new source review (NSR) thresholds. Total building emissions will be the sum of all emissions sources in the EMSL building not otherwise exempt under WAC 173-400 or WAC 173-460. A new NOC will be required if total building emissions of toxic air pollutants exceed the Small Quantity Emission Rates, unless a T-Screen or ISCST3 analysis, using the current model version, is run that shows the emissions would result in concentrations less than the ASILs, or if total building emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds. Results of these analyses will be maintained on file at Pacific Northwest National Laboratory for inspection.	Analyze each proposed change to determine if emissions would exceed an ASIL or NSR threshold.	NSR Thresholds - N ASILs - Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	7A and 7B

Discharge Point Number:	300 EP-3020-02-S through -06-S Environmental Molecular Sciences Lab (EMSL) chemical stacks		Requirement Citation (WAC or Order Citation): NOC-94-08		
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date:</i> 9/12/94 10 % Opacity (300 EP-3020-02-S through -06-S)	See Section 2.1, Tier 2 Frequency: At least once per quarter	N	Method: Ecology Method 9B Frequency: Not Applicable	1. Operating log	Not Applicable
Discharge Point Number:	300 EP-3020-07-S through -12-S Environmental Molecular Sciences Laboratory (EMSL) 300EP-3020-07-S through -12-S Natural gas fired boilers and diesel generator		Requirement Citation (WAC or Order Citation): NOC-94-08		
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date:</i> 9/12/94 5 % Opacity (300 EP-3020-07-S through 11-S)	See Section 2.1, Tier 2 Frequency: At least once per quarter	N	Method: Ecology Method 9A Frequency: Not Applicable	1. Operating log.	Not Applicable
<i>Condition Approval Date:</i> 6/13/00 The EMSL gas-fired boilers shall be operated in accordance with good combustion practices to minimize emissions based on the manufacturer's recommendations. Periodic preventive maintenance and combustion adjustments shall be made as necessary to maintain GCP, but at least annually. Per Ecology's request, Energy shall demonstrate the effectiveness of GCP to Ecology during normal operation of the boilers.	Not applicable	N	Method: Not Specified Frequency: Not Applicable		Not Applicable

Discharge Point **300 EP-3020-07-S through -12-S**

Number: Environmental Molecular Sciences Lab (EMSL)
EP-3020-07-S Natural gas fired boilers

Requirement Citation (WAC or Order Citation): NOC-94-08

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<p><i>Condition Approval Date: 6/13/00</i></p> <p>The following emission units:</p> <p>* Three operating or standby 5 MMBTU/hr gas-fired hot water boilers utilizing natural gas (300 EP-3020-07-S through -09-S)</p> <p>* Two inactive 4 MMBTU/hr gas-fired steam boilers utilizing natural gas (300 EP-3020-10-S and 11-S)</p> <p>* The above boilers and the 1072 HP (300 EP-3020-12-S) backup diesel electric generator using diesel fuel may be operated using good combustion practices (GCP) to minimize emissions based on manufacturer's recommendations.</p> <p>The EMSL boilers and backup diesel electric generator may be operated on diesel fuel up to 16 hours each annually for routine maintenance and testing. Additionally when the primary gas or electric supplies are interrupted, diesel fuel may be utilized to maintain building operation. Total runtime on diesel fuel for the generator and boilers shall be maintained and presented to Ecology upon request. Operation shall be in accordance with GCP to minimize emissions based on the manufactures' recommendations, and require the use of fuel with a sulfur content of 0.05% or less.</p>	<p>Recordkeeping Frequency: At least annually</p>	N	<p>Method: Not Specified Frequency: Not Applicable</p>	<p>1. Records of preventive maintenance, combustion adjustments, and operation as necessary to maintain GCP based on manufacturer's recommendations for minimizing emissions.</p> <p>2. Operating log showing all hours of diesel fuel operation.</p> <p>3. Records of vendor documentation or fuel analysis documenting procurements of diesel fuel with sulfur content of 0.05% or less once per year.</p>	Not Applicable

Discharge Point 300 EP-305B-02-V		Requirement Citation (WAC or Order Citation): DE 98NWP-003			
Number: 305-B Building Gas Cylinder Management Process					
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 9/1/98</i>					
GCMP Release Limits: The maximum total quantity of residuals that are allowed to be released under this Order per calendar year will not exceed two (2) tons/year. This shall include no more than one (1) ton/year of Class I and Class II ozone-depleting substances.	Operator recording of release information. Frequency: for each release	Y	Method: Not Specified Frequency: Not Applicable	1. Daily volumes and concentrations emitted from each cylinder and operator signature	6
<hr/>					
<i>Condition Approval Date: 9/1/98</i>					
GCMP Release Limits: The above release limits and the ASILs shall not be exceeded until a revised NOC application is submitted to Ecology and approved by Ecology.	Applicable if triggered	Y	Method: Not Specified Frequency: Not Applicable	1. Chemical inventory if use rates are unavailable 2. Volumes and concentrations in each cylinder 3. Waste handling rates 4. Chemical use rate 5. Chemical inventory if use rates are unavailable	6
<hr/>					
<i>Condition Approval Date: 9/1/98</i>					
Total Building Emission Limits: GCMP process and emission controls, building research and waste handling projects and supporting operations, and building equipment additions and changes, including emission control systems, can be made to accommodate changing research and support requirements without filing a new Notice of Construction, providing the total emissions meet the ASILs and WAC 173-400-110 NSR thresholds.	Recordkeeping Frequency: For each release	NSR Thresholds - N ASILs - Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	7A and 7B

Discharge Point 300 EP-305B-02-V					
Number:	305-B Building Gas Cylinder Management Process	Requirement Citation (WAC or Order Citation): DE 98NWP-003			
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 9/1/98</i> Total Building Emission Limits: A new NOC will be required if total building emissions of toxic air pollutants exceed the Small Quantity Emission Rates, unless a T-Screen analysis is run that shows that emissions would result in concentrations less than ASILs. Results of these analyses will be maintained on file at PNNL for inspection.	Applicable if triggered	Y	Method: Not Specified Frequency: Not Applicable	1. Chemical inventory if use rates are unavailable 2. Volumes and concentrations in each cylinder 3. Waste handling rates 4. Chemical use rate 5. Chemical inventory if use rates are unavailable	6, 7A & 7B
<i>Condition Approval Date: 9/1/98</i> Total Building Emission Limits: A new NOC will be required if total building emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds.	Applicable if triggered	N	Method: Not Specified Frequency: Not Applicable	1. Chemical inventory if use rates are unavailable 2. Volumes and concentrations in each cylinder 3. Waste handling rates 4. Chemical use rate 5. Chemical inventory if use rates are unavailable	6 & 7A

Discharge Point 300 EP-305B-02-V		Requirement Citation (WAC or Order Citation): DE 98NWP-003			
Number: 305-B Building Gas Cylinder Management Process					
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date:</i> 9/1/98 Monitoring and Recordkeeping: Specific records shall be kept on-site by the permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period.	Recordkeeping	N	Method: Not Specified Frequency: Not Applicable	1. Logbook identifying individual cylinders. 2. Logbook identifying contents of the cylinders 3. The amount of residuals 4. The date and rate of release 5. Any other information pertaining to said release	Not Applicable
<i>Condition Approval Date:</i> 9/1/98 Should any of the emissions become subject to 40 Code of Federal Regulations (CFR) 264/265 Subparts AA, those emissions would be regulated under those parts and are then exempt from WAC 173-460. In that event, those exempted emissions would be excluded from ASIL and threshold evaluations.	Applicable if triggered	Y	Method: Not Specified Frequency: Not Applicable		Not Applicable
<i>Condition Approval Date:</i> 9/1/98 General Conditions: Visible emissions - No visible emissions shall be allowed beyond the property line, as determined by opacity readings when warranted.	Section 2.1, Tier 2 Frequency: At least once per quarter	N	Method: Ecology Method 9A Frequency: Not Applicable	1. Operating log.	Not Applicable

Discharge Point **300 EP-325-01-S**Number: 325 Building Hazardous Waste Treatment Unit
(HWTU)

Requirement Citation (WAC or Order Citation): DE 98NWP-004

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 9/1/98</i> HWTU Feed Rate: The process feed rate shall be limited to a rate that will control the WAC 173-460 listed Toxic Air Pollutants (TAPs) to meet the Acceptable Source Impact Level (ASIL), and in any case, not to exceed 8,000 kg of waste per calendar year total for the HWTU the permittee is proposing under this NOC application approval Order.	Recordkeeping Frequency: Daily when operating	Y	Method: Not Specified Frequency: Not Applicable	1. HWTU daily feed rate (Total and WAC 173-460 TAPs).	Not Applicable
<i>Condition Approval Date: 9/1/98</i> Total Building Emission Limits: HWTU process and emission controls, building research and waste handling projects and supporting operations, and building equipment additions and changes, including control systems, can be made to accommodate changing research and support requirements without filing a new Notice of Construction, providing the total emissions meet the ASILs and WAC 173-400-110 NSR thresholds.	Recordkeeping and emission calculations Frequency: Each treatment process and proposed change	NSR Thresholds - N ASILs - Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses	7A and 7B
<i>Condition Approval Date: 9/1/98</i> A new Notice of Construction will be required if total building emissions of toxic air pollutants exceed the Small Quantity Emission Rates, unless a T-Screen analysis is run that shows the emissions would result in concentrations less than the ASILs.	Recordkeeping and emission calculations Frequency: Each proposed change	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses	7A and 7B

Discharge Point **300 EP-325-01-S**Number: 325 Building Hazardous Waste Treatment Unit
(HWTU)

Requirement Citation (WAC or Order Citation): DE 98NWP-004

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 9/1/98</i> A new Notice of Construction also is required if total building emissions of criteria pollutants would exceed the WAC 173-400-110 thresholds.	Applicable if triggered	N	Method: Not Specified Frequency: Not Applicable		Not Applicable
<i>Condition Approval Date: 9/1/98</i> General Testing Requirements: Perform initial source test for Volatile Organic Compounds (VOCs). DOE-RL shall demonstrate initial compliance for Volatile Organic Compounds (VOC) through source tests conducted no later than 180 days after start-up of the proposed HWTU/SAL activities. EPA Reference Method 25A shall be followed for testing, the test plan shall be submitted to Ecology upon request. After source tests are completed, mass balance calculations will be accepted for compliance purposes.	Record keeping and emission calculations	N	Method: EPA Method 25A Frequency: Once within 180 days after start-up	1. Annual emission calculations after initial source test 2. Initial source test	Not Applicable

Discharge Point **300 EP-325-01-S**Number: 325 Building Hazardous Waste Treatment Unit
(HWTU)

Requirement Citation (WAC or Order Citation): DE 98NWP-004

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 9/1/98</i> Monitoring and Recordkeeping: Specific records shall be kept on-site by the permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period.	Recordkeeping and emission calculations	N	Method: Not Specified Frequency: Not Applicable	1. HWTU unit feed rates for TAPS and NSR threshold listed criteria pollutants. 2. HWTU treatment process destruction efficiency data or engineering estimates. 3. Engineering estimates of the maximum emissions of reaction products of the HWTU treatment process. 4. Evaluations of each bench-scale treatment process or additions or changes not otherwise exempt.	Not Applicable
<i>Condition Approval Date: 9/1/98</i> General Conditions: Visible Emissions - No visible emissions shall be allowed beyond the property line, as determined by opacity readings when warranted.	See Section 2.1, Tier 3	N	Method: Ecology Method 9A Frequency: Not Applicable	1. Operating log.	Not Applicable

Discharge Point **300 EP-329-01-S**Number: Chemical Sciences Laboratory, 329 Building
modification and ventilation upgrades

Requirement Citation (WAC or Order Citation): NWP95-329/300A

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date:</i> 9/18/96 Opacity 5 %	See Section 2.1, Tier 3	N	Method: EPA Method 9 of 40 CFR Part 60, Appendix A Frequency: Not Applicable		Not Applicable
<i>Condition Approval Date:</i> 9/18/96 VOC 0.8 lb/hr	Chemical inventory and usage records and emission calculations for each change	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	4B

Discharge Point **300 EP-331-01-V**

Number: Life Sciences Laboratory I (Building 331)

Requirement Citation (WAC or Order Citation): 97NM-147

Modifications

Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 11/10/97</i> A new Notice of Construction shall be filed if emissions of toxic air pollutants exceed the pounds per year Small Quantity Emissions Rates (SQER) of WAC 173-460-080(2)(e), or it shall be on file at the 331 Building that T-SCREEN was run and that emissions were less than the Acceptable Source Impact Level (ASIL), in accordance with 173-460-080(2) and (3). Results shall be on file at PNNL for inspection.	Recordkeeping Frequency: For each change	Y	Method: Not Specified Frequency: Not Applicable	1. Results of analyses.	7A and 7B
A new Notice of Construction shall be filed if emissions of criteria pollutants exceed the following thresholds: Carbon Monoxide - 20 tons/year Nitrogen Oxides - 8 tons/year Sulfur dioxide - 8 tons/year Volatile Organic Compounds - 8 tons/year Particulate matter - 5 tons/year PM-10 - 3 tons/year Lead - 0.12 tons/year					

Discharge Point 300 P-340NTEX-001		Requirement Citation (WAC or Order Citation): 97NM-137			
Number: 340-A Building Tank Solids Removal					
Regulatory Requirement, Emission Limit, or Work Practice Standard	Periodic Monitoring	State Only Enforceable	Test Method / Frequency	Required Records	Calculation Model ID
<i>Condition Approval Date: 5/5/97</i> Maintain negative pressure of tanks during solids removal.	Not applicable	N	Method: Not Specified Frequency: Not Applicable	1. Operations log showing negative air pressure was maintained during solids removal from tank	Not Applicable
<i>Condition Approval Date: 5/5/97</i> Implement temporary pollution controls during removal of solids and equipment from tanks. Temporary pollution controls implemented during solids removal will consist of temporary barriers installed between the tank access port and the surrounding area. Temporary pollution controls implemented during removal of equipment will consist of plastic sleeving to provide a barrier between the equipment and the surrounding work area and the environment.	Not applicable	N	Method: Not Specified Frequency: Not Applicable	1. Operations log showing appropriate temporary pollution control was in place during solids removal and equipment removal.	Not Applicable
<i>Condition Approval Date: 5/5/97</i> Control particulates with a prefilter and two banks of HEPA's. HEPA's are to be in-place tested to demonstrate removal efficiency of 99.95% for particulates with a 0.3 micron median diameter.	Not applicable	N	Method: Not Specified Frequency: Not Applicable	1. Inspection records 2. HEPA test results.	Not Applicable

¹ The Test Methods identified in this table are used as compliance verification tools. A frequency is not applicable unless specified in the table.

TABLE 1.7 MISCELLANEOUS EMISSION UNITS

Discharge Point Number	Requirement Citation	Regulatory Requirement, Emission Limit, or Work Practice Standard
Hanford Site Asbestos Landfill	40 CFR 61.151(a)(3)	Cover asbestos-containing waste with at least 60 centimeter of compacted nonasbestos-containing material, and maintain to prevent exposure.
	40 CFR 61.151(d)	Notify in writing at least 45 days prior to excavation. If construction will begin on a date other than the one in the original notice, notice of the new date must be provided at least 10 working days in advance. (1) Notice shall contain starting and completion dates. (2) Notice shall contain reason for disturbing the waste. (3) Notice shall contain procedures to be used to control emissions (4) Notice shall contain a location for any temporary storage site and the final disposal site.
181B-66 Underground Storage Tank	40 CFR 60.116(b)	Keep readily accessible records showing the dimension of the storage vessel and analysis showing capacity
600 Area Gas Distribution	WAC 173-491-040(4)(b)	All gasoline storage tanks shall be equipped with submerged or bottom fill lines and fittings to vapor balance gasoline vapors with the delivery transport tank.
	WAC 173-491-040(4)(d)	The owner or operator shall not permit the loading of gasoline into a storage tank equipped with vapor balance fittings from a transport tank equipped with vapor balance fittings unless the vapor balance system is attached to the transport tank and operated satisfactorily.
	WAC 173-491-040(6)(d)	Recordkeeping.
283-W Water Treatment Plant (Chlorine Tank)	40 CFR 68.190(b)(3)	Evaluate 283-W for compliance with newly regulated substances above the threshold (revise Risk Management Plan if needed).
	40 CFR 68.190(b)(7)	Evaluate 283-W for change in Program Level within 6 months after any change.
	40 CFR 68.190(c)	Evaluate 283-W for applicability of 40 CFR 68.
	40 CFR 68.190(b)(6)	Evaluate 283-W for change that requires a revised consequence analysis.
	40 CFR 68.95(a)	Confirm that the required emergency response program has been developed and implemented.
	40 CFR 68.95(a)(4)	Confirm that the required procedures are in place to review and update the emergency response plan to reflect changes at the stationery source.
	40 CFR 68.12(b)(3)	Confirm that emergency response actions have been coordinated with local emergency planning and response agencies.
	40 CFR 68.39(a) to (e)	Confirm that records are being maintained for the offsite consequence analysis.

2. Compliance and Periodic Monitoring Provisions

- 2.1 Visible emission surveys must be conducted during daylight hours and during periods when the emission unit is operating

Tier 1

This method applies primarily to fossil-fuel combustion units and other emission units that may be a source of visible emissions. The method consists of operating personnel observing visible emissions from the emission unit according to the frequency identified in the table. If the operator observes visible emissions for more than 10 consecutive minutes during the observation period, the cause(s) of the visible emissions will be determined and corrective actions taken as necessary, or a visible determination of opacity will be performed using Ecology Method 9A. Records of corrective actions taken to reduce opacity shall be maintained and available for Ecology inspection..

Tier 2

Some emission units are unlikely sources of visible emissions and are not expected to exceed their applicable opacity limit based on past operating experience and/or expected process behavior. These emission units include research and development laboratories, analytical laboratories, and small natural gas-fired boilers. For these emission units, a surveillance will be conducted and the results recorded. If visible emissions from one of these emission units are observed for more than 10 consecutive minutes, an attempt to identify the cause(s) of the visible emissions will be made and those results recorded. The recorded entry will also identify any corrective actions taken and the likely frequency of a future reoccurrence. If the event is likely to be reoccurring, and cannot be demonstrated to consist of water vapor, then a determination of opacity will be made using Ecology Method 9A. The frequency of the visible emission surveys shall be as required in the table unless the following procedure has been satisfactorily completed.

Procedure for reducing visible emission survey frequencies.

If weekly visible emission surveys for 3 months are negative, then quarterly measurements will be taken for the next six months. After one year of no visible emissions, visible emission surveys will be performed only when visible emissions are observed or expected (e.g., during startup, shutdown, or periods of malfunction). Visible emission surveys during these periods will be conducted for non-radionuclide-emitting stacks according to the process described in Tier 2 above.

Tier 3

Maintain abatement control technology as required in Attachment 2, Tables 1.1, 1.2 and 2.1, for that particular emission unit.

- 2.2 Complaints forwarded by Ecology shall be addressed promptly and assessed for corrective action. An initial, informal response shall be made to Ecology within 3 working days of the permittee receiving the complaint. This initial response shall document preliminary investigation results and any planned or completed corrective actions. Follow-up report(s) shall be provided as directed by Ecology. The permittee shall maintain records of complaints forwarded by Ecology.

- 2.3 All construction projects will address fugitive emissions and fugitive dust control during prejob planning and job safety analysis. Measures to control fugitive emissions and fugitive dust may include but are not limited to:
1. Watering.
 2. Use of chemical stabilizers.
 3. Use of physical barriers and/or physical stabilization.
 4. Use of vegetative stabilization.
 5. Clearing only limited areas to reduce dust generation.
 6. Covering haul vehicles.
 7. Minimizing track-out.
 8. Controlling site traffic to decrease disturbance of soil and vegetation to decrease dust generated from unnecessary vehicular travel.
- 2.4 Emission standards and other requirements contained in rules or regulatory orders in effect at the effective date of this permit or subsequent renewals shall be considered RACT for purposes of permit issuance or renewal. RACT determinations made subsequent to the effective date of permit issuance or renewal shall be incorporated into this permit as provided by WAC 173-401-730. [WAC 173-401-605(3)].
- 2.5 Recordkeeping
DOE and the contractor shall maintain appropriate records of the fuel use on each individual boiler on a monthly basis. These data, along with the emission factors presented in Ecology Regulatory Order 97NM-138 will be used to determine monthly emission levels for individual boilers, and collectively for the 200 East and West, and 300 Area. If Ecology or the permittee determines that emission factors different than the factors specified in Regulatory Order 97NM-138 is appropriate, the public will be provided with an opportunity for review.
WAC 173-400-115 Compliance with the standard may be determine based on a certification from the fuel supplier containing the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 40.41c. A quarterly report including records of fuel supplier certifications and a certification by the owner or operator that the records of fuel supplier certifications submitted represent all of the fuel combusted during the quarter.
Logs of boiler tune-ups and significant boiler maintenance activities will be kept.
- 2.6 All source tests for these boilers will be conducted using EPA and Ecology approved procedures with the test boilers operating at full capacity. Tests are to be conducted on a maximum of five boilers selected on the basis of boiler capacity and fuel type. The procedure for selecting the test boilers will be agreed to by Ecology and DOE prior to conducting the tests. A procedure for selecting a representative subset of boilers for testing once every 5 years will be developed prior to the initial 5 year follow-up test. The public will be provided an opportunity for review of the procedure as part of an air operating permit modification or renewal.

The list below is an inventory of the larger boilers that are subject to testing (maximum of 5 boilers):

Distillate Oil-Fired Boilers	Number of units
200 BHP	5
350 BHP	3
700 BHP	2

Natural Gas-Fired Boilers	Number of units
200 BHP	2
300 BHP	4

2.7 Tier 1: Fuel-oil fired combustion units:

Required records	Calculation Model (see Section 3.1)
1. fuel burned 2. Vendor documentation or fuel analysis once per year	Model 1

Tier 2: Other significant emission units:

Ecology has determined, based on process knowledge, that these emission units do not emit significant levels of SO₂. The permittee shall annually certify that the processes have not been modified to increase SO₂ emissions and no SO₂ Monitoring is required.

- 2.8 WAC 173-400-040(1)(a) and (1)(b) are federally enforceable sections. Soot blowing and grate cleaning is allowed if the operator can demonstrate that the emissions will not exceed 20% opacity for more than 15 minutes in any 8 consecutive hours.
- 2.9 WAC 173-400-040(6)¶1 is federally enforceable.

3. Recordkeeping

The permittee shall maintain records of all required monitoring data and support information. These records shall be maintained for a period of five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original continuous monitoring records (such as strip charts or equivalent), and required reports. Most of these records are retained on-site in electronic format. Regulatory agencies accept electronic records as supporting information.

[WAC 173-401-615(2)(a), WAC 173-401-615(2)(c)]

3.1 Emission Calculations

MODEL 1 Description: Compliance with 1000 ppm SO₂ @7% O₂ Internal Combustion Engines >500 hp
SO₂ Emission Calculations

Stoichiometric calculations were done to show emissions for a specific diesel engine (2200 HP, with fuel consumption rate of 99.4 gal/hr) were well below the 1000 ppm SO₂ standard.

$$\text{theoretical air required (ft}^3/\text{lb)} = 1710 * (C/12 + H/2 + S/32)$$

multiply this by fuel consumption rate * fuel density to get ft³/min

Assumptions: diesel fuel is predominantly C₁₆H₂₄

Fuel density = 7.107 lb/gal

Heat content diesel = 140000 BTU/gal

S concentration of 0.5%

AP-42 emission factors for large IC engines

CO = 0.81 lb/mmBTU

CO₂ = 165 lb/mmBTU

TOC (as CH₄) = 0.9 lb/mmBTU

NO_x (as NO₂) = 3.1 lb/mmBTU

Assuming complete combustion of the fuel, emissions were shown in the calculations below to be less than 250 ppm SO₂ at 7% O₂. Calculations were also done varying the fuel consumption rate. Since the theoretical air required was proportional to the fuel consumption rate, theoretical SO₂ emissions were independent of engine size or fuel consumption rate. Actual SO₂ emissions would be diluted by excess air.

Therefore, as a class, these engines cannot exceed the general standard when using fuel with S concentration < 0.5%.

Stoichiometric Calculations to Estimate SO₂ Emissions Normalized to 7% O₂ From Combustion of Diesel #2 Fuel Oil using AP-42 Factors For Large Internal Combustion Engines (> 500 HP)

Assumptions: Diesel #2 Fuel Oil (C₁₆H₂₄), 0.5wt% Sulfur; Heat Content = 140000 BTU/gal;
Case 1: 2200 HP IC Engine; Fuel consumption rate = 99.4 gal/hr.

$$MW_C := 12.01115 \frac{\text{gm}}{\text{mole}} \quad MW_O := 15.9994 \frac{\text{gm}}{\text{mole}} \quad MW_H := 1.0079 \frac{\text{gm}}{\text{mole}}$$

$$MW_S := 32.064 \frac{\text{gm}}{\text{mole}} \quad MW_N := 14.0067 \frac{\text{gm}}{\text{mole}} \quad P := 1 \cdot \text{atm} \quad MM := 1 \cdot 10^6$$

$$MW_{\text{fuel}} := 16 \cdot MW_C + 24 \cdot MW_H \quad MW_{\text{fuel}} = 216.36 \frac{\text{gm}}{\text{mole}}$$

$$MW_{\text{SO}_2} := MW_S + 2 \cdot MW_O \quad MW_{\text{SO}_2} = 64.063 \frac{\text{gm}}{\text{mole}}$$

$$MW_{\text{Air}} := 2 \cdot (.21 \cdot MW_O + .79 \cdot MW_N) \quad MW_{\text{Air}} = 28.85 \frac{\text{gm}}{\text{mole}}$$

$$MW_{\text{CO}} := MW_C + MW_O \quad MW_{\text{CO}} = 28.011 \frac{\text{gm}}{\text{mole}}$$

$$MW_{\text{CO}_2} := MW_C + 2 \cdot MW_O \quad MW_{\text{CO}_2} = 44.01 \frac{\text{gm}}{\text{mole}}$$

$$MW_{\text{CH}_4} := MW_C + 4 \cdot MW_H \quad MW_{\text{CH}_4} = 16.043 \frac{\text{gm}}{\text{mole}}$$

$$MW_{\text{NO}_2} := MW_N + 2 \cdot MW_O \quad MW_{\text{NO}_2} = 44.013 \frac{\text{gm}}{\text{mole}}$$

$$S_f := 0.005 \quad C_f := 16 \cdot \frac{MW_C}{MW_{\text{fuel}}} \quad H_f := 24 \cdot \frac{MW_H}{MW_{\text{fuel}}}$$

$$V_{\text{th_air}} := \left[1710 \left(\frac{C_f}{12} + \frac{H_f}{2} + \frac{S_f}{32} \right) \right] \frac{\text{ft}^3}{\text{lb}} \quad V_{\text{th_air}} = 222.424 \frac{\text{ft}^3}{\text{lb}}$$

$$V_{\text{fuel}} := 99.4 \frac{\text{gal}}{\text{hr}} \quad T_{\text{SC}} := 527.67 \cdot \text{R} \quad T_{\text{SC}} = 293.15 \cdot \text{K}$$

$$\text{SO}_2_{\text{conc}} := \frac{71 \cdot \text{lb}}{1000 \cdot \text{gal}} \quad R_{\text{gas}} := \frac{P \cdot 22.4 \cdot \text{liter}}{\text{mole} \cdot T_{\text{SC}}} \quad R_{\text{gas}} = 0.076 \frac{\text{liter} \cdot \text{atm}}{\text{mole} \cdot \text{K}}$$

$$S_{\text{fuel}} := \text{SO}_2_{\text{conc}} \cdot \frac{MW_S}{MW_{\text{SO}_2}} \quad S_{\text{fuel}} = 0.036 \frac{\text{lb}}{\text{gal}}$$

$$\rho_{\text{fuel}} := \frac{S_{\text{fuel}}}{.005} \quad \rho_{\text{fuel}} = 7.107 \frac{\text{lb}}{\text{gal}}$$

$$\text{Fuel} := \frac{V_{\text{fuel}} \cdot \rho_{\text{fuel}}}{\text{MW}_{\text{fuel}}} \quad \text{Fuel} = 1.481 \cdot 10^3 \frac{\text{mole}}{\text{hr}}$$

$$S := \frac{V_{\text{fuel}} \cdot S_{\text{fuel}}}{\text{MW}_S} \quad S = 49.969 \frac{\text{mole}}{\text{hr}} \quad \text{SO}_2 := S \quad \text{SO}_2 = 49.969 \frac{\text{mole}}{\text{hr}}$$

$$V_{\text{air}} := V_{\text{th_air}} \cdot \rho_{\text{fuel}} \cdot V_{\text{fuel}} \quad V_{\text{air}} = 2.619 \cdot 10^3 \frac{\text{ft}^3}{\text{min}}$$

Heat of combustion of fuel reported at 140,000 BTU/gal; however, based on AP-42 factors, results in using more fuel than what was supplied based on the stoichiometry for the combustion of fuel. By trial and error, adjusted the heat of combustion of the fuel so that the remaining amount of uncombusted carbon was essentially "zero."

$$H_{\text{c_fuel}} := 138903.34 \frac{\text{BTU}}{\text{gal}} \quad H_{\text{c_total}} := H_{\text{c_fuel}} \cdot V_{\text{fuel}} \quad H_{\text{c_total}} = 1.381 \cdot 10^7 \frac{\text{BTU}}{\text{hr}}$$

$$\text{CO}_{\text{produced}} := H_{\text{c_total}} \cdot .81 \cdot \frac{\text{lb}}{\text{MM} \cdot \text{BTU}} \quad \text{CO}_{\text{produced}} = 11.184 \frac{\text{lb}}{\text{hr}}$$

$$\text{CO} := \frac{\text{CO}_{\text{produced}}}{\text{MW}_{\text{CO}}} \quad \text{CO} = 181.104 \frac{\text{mole}}{\text{hr}}$$

$$\text{CO}_2_{\text{produced}} := H_{\text{c_total}} \cdot .165 \cdot \frac{\text{lb}}{\text{MM} \cdot \text{BTU}} \quad \text{CO}_2_{\text{produced}} = 2.278 \cdot 10^3 \frac{\text{lb}}{\text{hr}}$$

$$\text{CO}_2 := \frac{\text{CO}_2_{\text{produced}}}{\text{MW}_{\text{CO}_2}} \quad \text{CO}_2 = 2.348 \cdot 10^4 \frac{\text{mole}}{\text{hr}}$$

$$\text{CH}_4_{\text{produced}} := H_{\text{c_total}} \cdot .09 \cdot \frac{\text{lb}}{\text{MM} \cdot \text{BTU}} \quad \text{CH}_4_{\text{produced}} = 1.243 \frac{\text{lb}}{\text{hr}}$$

$$\text{CH}_4 := \frac{\text{CH}_4_{\text{produced}}}{\text{MW}_{\text{CH}_4}} \quad \text{CH}_4 = 35.134 \frac{\text{mole}}{\text{hr}}$$

$$\text{NO}_2_{\text{produced}} := H_{\text{c_total}} \cdot .3.1 \cdot \frac{\text{lb}}{\text{MM} \cdot \text{BTU}} \quad \text{NO}_2_{\text{produced}} = 42.802 \frac{\text{lb}}{\text{hr}}$$

$$\text{NO}_2 := \frac{\text{NO}_2_{\text{produced}}}{\text{MW}_{\text{NO}_2}} \quad \text{NO}_2 = 441.111 \frac{\text{mole}}{\text{hr}}$$

$$\text{H}_2\text{O} := \frac{24 \cdot \text{Fuel} - 4 \cdot \text{CH}_4}{2} \quad \text{H}_2\text{O} = 1.77 \cdot 10^4 \frac{\text{mole}}{\text{hr}}$$

$$\text{Air}_{\text{actual}} := \frac{P \cdot V_{\text{air}}}{R_{\text{gas}} \cdot T_{\text{SC}}}$$

$$\text{Air}_{\text{actual}} = 1.986 \cdot 10^5 \frac{\text{mole}}{\text{hr}}$$

$$\text{O}_{\text{actual}} := 2.21 \cdot \text{Air}_{\text{actual}}$$

$$\text{O}_{\text{actual}} = 8.343 \cdot 10^4 \frac{\text{mole}}{\text{hr}}$$

$$\text{N}_{\text{actual}} := 2.79 \cdot \text{Air}_{\text{actual}}$$

$$\text{N}_{\text{actual}} = 3.138 \cdot 10^5 \frac{\text{mole}}{\text{hr}}$$

$$\text{O}_{\text{remaining}} := \text{O}_{\text{actual}} - 2 \cdot \text{SO}_2 - \text{NO}_2 - 2 \cdot \text{CO}_2 - \text{CO} - \text{H}_2\text{O}$$

$$\text{O}_{\text{remaining}} = 1.804 \cdot 10^4 \frac{\text{mole}}{\text{hr}}$$

$$\text{O}_{2_{\text{remaining}}} := \frac{\text{O}_{\text{remaining}}}{2}$$

$$\text{O}_{2_{\text{remaining}}} = 9.022 \cdot 10^3 \frac{\text{mole}}{\text{hr}}$$

$$\text{N}_{\text{remaining}} := \text{N}_{\text{actual}} - \text{NO}_2$$

$$\text{N}_{\text{remaining}} = 3.134 \cdot 10^5 \frac{\text{mole}}{\text{hr}}$$

$$\text{N}_{2_{\text{remaining}}} := \frac{\text{N}_{\text{remaining}}}{2}$$

$$\text{N}_{2_{\text{remaining}}} = 1.567 \cdot 10^5 \frac{\text{mole}}{\text{hr}}$$

Verification that remaining carbon is essentially "zero".

$$\text{C}_{\text{remaining}} := 16 \cdot \text{Fuel} - \text{CO} - \text{CO}_2 - \text{CH}_4$$

$$\text{C}_{\text{remaining}} = 3.781 \cdot 10^{-4} \frac{\text{mole}}{\text{hr}}$$

Recalling that Mole % = Volume % (for gasses only) one can easily calculate the volume % of the constituents in the exiting gas stream.

$$\text{Moles}_{\text{total}} := \text{O}_{2_{\text{remaining}}} + \text{N}_{2_{\text{remaining}}} + \text{CO} + \text{CO}_2 + \text{SO}_2 + \text{NO}_2 + \text{CH}_4 + \text{H}_2\text{O}$$

$$\text{Moles}_{\text{total}} = 2.076 \cdot 10^5 \frac{\text{mole}}{\text{hr}}$$

Gas calculations are to be done on a dry basis; therefore, need to subtract out the water contribution.

$$\text{Moles}_{\text{total_dry}} := \text{Moles}_{\text{total}} - \text{H}_2\text{O}$$

$$\text{Moles}_{\text{total_dry}} = 1.899 \cdot 10^5 \frac{\text{mole}}{\text{hr}}$$

$$\text{O}_2\% := \frac{(\text{O}_{2_{\text{remaining}}} \cdot 100)}{\text{Moles}_{\text{total_dry}}}$$

$$\text{O}_2\% = 4.751$$

$$\text{N}_2\% := \frac{(\text{N}_{2_{\text{remaining}}} \cdot 100)}{\text{Moles}_{\text{total_dry}}}$$

$$\text{N}_2\% = 82.513$$

$$\text{CH4\%} := \frac{\text{CH4} \cdot 100}{\text{Moles}_{\text{total_dry}}} \quad \text{CH4\%} = 0.019$$

$$\text{SO2\%} := \frac{\text{SO2} \cdot 100}{\text{Moles}_{\text{total_dry}}} \quad \text{SO2\%} = 0.026$$

$$\text{NO2\%} := \frac{\text{NO2} \cdot 100}{\text{Moles}_{\text{total_dry}}} \quad \text{NO2\%} = 0.232$$

$$\text{CO\%} := \frac{\text{CO} \cdot 100}{\text{Moles}_{\text{total_dry}}} \quad \text{CO\%} = 0.095$$

$$\text{CO2\%} := \frac{\text{CO2} \cdot 100}{\text{Moles}_{\text{total_dry}}} \quad \text{CO2\%} = 12.364$$

Check to see if sum equals 100%

$$\text{SUM}_{\text{dry}} := \text{O2\%} + \text{N2\%} + \text{CH4\%} + \text{SO2\%} + \text{NO2\%} + \text{CO\%} + \text{CO2\%} \quad \text{SUM}_{\text{dry}} = 100$$

$$\text{ppm} := \frac{1}{1000000} \quad \text{SO2}_{7\% \text{O2}} := \text{SO2\%} \cdot \left(\frac{14}{21 - \text{O2\%}} \right) \quad \text{SO2}_{7\% \text{O2}} = 0.023$$

Since SO2 concentration is already in % divide by 100 to express in ppm

$$\text{SO2}_{7\% \text{O2}} := \frac{\text{SO2}_{7\% \text{O2}}}{100} \quad \text{SO2}_{7\% \text{O2}} = 226.694 \text{ ppm}$$

MODEL 2 Nitrogen Oxides Emission Calculations

MODEL 2B Description: Compliance with 75.5 lbs/hr NO_x (Engine E) or 42 lbs/hr NO_x (Engine W)

$$ER = F * AP_{42} * CF$$

where: ER = Emission rate for NO_x in lbs/hr

$$F = \text{Diesel burn rate (gal/hr)}$$

$$AP_{42} = \text{AP-42 factor (3.1 lbs/mmBTU)}$$

$$CF = 0.139 \text{ mmBTU/gal}$$

Assumptions: heat of combustion for diesel #2 oil = 140,000 BTU/gal
 F = 104.7 gal/hr (Engine E, 2200 hp), manufacturer's specification
 F = 90.8 gal/hr (Engine W, 1850 hp), manufacturer's specification
 ER (Engine E) = 45.1 lbs/hr
 ER (Engine W) = 39.1 lbs/hr

Fuel used divided by hours logged will demonstrate the average fuel consumption rate is below manufacturer's specification

Engine E will be in continuous compliance with the NO_x emission limit of 75.5 lbs/hr

Engine W will be in continuous compliance with the NO_x emission limit of 42 lbs/hr

MODEL 4 Volatile Organic Compounds Emission Calculations

MODEL 4A Description: Compliance with 50 ppm and 500 ppm VOC

Assumptions: A Total Organic Carbon Analyzer or similar instrument will be used to determine VOC concentrations in the stack effluent using EPA method 25A or an approved alternative. The VOC concentration will be determined in accordance with the frequency identified in the tables.

MODEL 4B Description: Compliance with 0.8 lbs VOC emitted in any hour

$$\text{VOC emission rate in lbs/hr} = 10 \times \left[\sum_{i=1 \text{ to } 3} (U_i * RF_i) \right]$$

Where $i=1$ for organic gases
 $i=2$ for volatile organic vapors/liquids
 $i=3$ for organic liquids

U_i = Maximum Annual Average Hourly Usage Rate (lb/hr) =
 (Maximum annual usage, lbs/yr)/(8760 hrs/yr)

RF_i = Release fractions
 $RF_1 = 1$ for organic gases
 $RF_2 = 0.1$ for volatile organic vapors/liquids
 $RF_3 = 10^{-3}$ for organic liquids

Assumptions:

Maximum emission rate in any hour is 10 times the maximum annual average hourly emissions, as stated in NOC approval condition 2.

If usage is not available, U may be estimated by assuming the inventory is used in a year.

MODEL 5 Ammonia Emission Calculations

Description: Compliance with 0.05 lbs/hr NH₃

$$ER = C * Sf * CF$$

where: ER = Emission rate for NH₃ in lbs/hr

C = Concentration of NH₃ in ppm

S_f = Stack flow (Vent & Balance measurements)

$$CF = 2.20 \text{ E-6} * 1.70 * 0.71 = 2.66 \text{ E-6} \quad \text{lb} / (\text{ppm} * \text{cfm} * \text{hr})$$

conversion from mg to lbs, m³/hr to cfm, ppm NH₃ to mg/m³

Assumptions:

- (1) Stack exhausts at ambient temperature
- (2) Vent & Balance measurements for average stack flow
- (3) Draeger tube measurement for NH₃ (minimum of one per year) during operations will demonstrate NH₃ levels are below the threshold which would be equal to 0.05 lbs/hr
- (4) If measurements during peak activities are below threshold, continuous compliance is assumed. For example, at 800 cfm, the concentration of NH₃ must be below 23.5 ppm.

MODEL 6 Emissions from 305 B Gas Cylinder Management Process (GCMP)

GCMP emissions will be determined by recording the daily volume and concentration emitted for each cylinder. The volumes and concentrations will be based on the known and recorded pressures and concentrations in the cylinders, or upper-bounding estimates if unknown.

MODEL 7A – Emissions from Use of Chemical Inventory

Emissions:

Emissions from the use of the chemical inventory in the building will be determined as follows:

Use rate x release fraction x (1-control efficiency).

In addition to chemical use rate, chemical inventory data may be used to estimate emissions. If the inventory information is used, the annual ASILs will be determined assuming the entire inventory is released in a year, and the 24-hour ASILs will be determined assuming the entire inventory is released during 20 days. The above methods and assumptions may be modified with Ecology's concurrence.

MODEL 7B – Air Concentrations for Comparison to ASILs

Total Building Emissions:

Calculate a building's total emissions by summing those due to the use of chemical inventory from Model A and those from additional processes in the building whose emissions are not included in Model A.

Total Building Ambient Air Concentrations

Calculate the air concentrations at the nearest points of unrestricted or uncontrolled public access to the building using the EPA T-Screen or ISCST3 dispersion models and compare them to the ASILs.

MODEL 7C – Emission calculations for LERF/ETF:
Air Emission Concentrations for Comparison to ASILs and SQER

1. Emission concentrations (to compare to ASIL):

$$AC_i = TR_i * FC_i$$

AC_i : air concentration of species i, ug/m³

TR_i : transfer rate of species i, unitless

FC_i : feed concentration of species i, ug/m³

Transfer rates vary depending on the species. For acids, bases, and salts, a TR of 1E-12 is given in DOE/RL-92-69. For other species it can be calculated using a variation of Raoult's Law:

$$TR_i = \left[\frac{1/MW_i}{DENSITY_i/MW_i} \right] * \left(\frac{VP_i}{760} \right) * \left[\frac{273/(T + 273)}{22.4} \right] * MW_i$$

TR_i : transfer rate of species i, unitless

MW_i : molecular weight of species i, kg/kgmol

$DENSITY_i$: density of pure liquid species, kg/m³

VP_i : vapor pressure of pure liquid species i at temperature T, mmHg

T : temperature, °C

Other values are conversion factors

Typical transfer rates:

- acetone = 1E-03
- carbon tetrachloride = 1E-03
- butanol = 1E-04
- TBP = 1E-05

2. Hourly emission rate (to compare to SQER):

$$ERH_i = AC_i * FLOW * 0.02832 * 2.205 * 60 / 1,000,000$$

ERH_i : hourly emission rate of species i, lb/hr

AC_i : air concentration of species i, ug/m³

FLOW : ETF vessel off-gas flowrate = 27,250 ft³/min

Other values are conversion factors

3. Annual emission rate (to compare to SQER):

$$ERY_i = ERH_i * 24 * 365$$

ERY_i : annual emission rate of species i, lb/yr

Other values are conversion factors.

MODEL 10A Rotary Mode Core Sampling: Emission estimates for Ammonia

Ammonia emissions - vapor composition analysis:

A sample of the vapor space analysis for each passively ventilated tank scheduled for rotary mode core sampling will be obtained as part of the preoperational steps.

Conversion of vapor space sample from parts per million (ppm) by volume to mg/m^3 :

$$[\text{NH}_3(\text{ppm}) \times (\text{gram molecular wt.})] / 24.45 = \text{NH}_3 (\text{mg}/\text{m}^3)$$

Conversion of vapor space sample from mg/m^3 to pounds per hour at $5.7 \text{ m}^3/\text{min}$:

$$[\text{NH}_3 (\text{mg}/\text{m}^3)] \times (339.8 \text{ m}^3/\text{hr}) \times (\text{lb} / 453,593 \text{ mg}) = \text{NH}_3 (\text{lb} / \text{hr})$$

Conversion of vapor space sample from mg/m^3 to pounds per hour at $5.7 \text{ m}^3/\text{min}$:

$$[\text{NH}_3 (\text{mg}/\text{m}^3)] \times (339.8 \text{ m}^3/\text{hr}) \times (\text{lb} / 453,593 \text{ mg}) = \text{NH}_3 (\text{lb} / \text{yr})$$

Where operating time = 672 hr /6 mo

Note: the vapor space sampling data comes from the TWINS database

MODEL 10B Rotary Mode Core Sampling: Emission estimates for Class A and Class B TAPs

Class A and Class B TAP emissions - vapor composition analysis:

A sample of the vapor space analysis for each passively ventilated tank scheduled for rotary mode core sampling will be obtained as part of the preoperational steps.

Conversion of vapor space sample from parts per million (ppm) by volume to mg/m^3 :

$$[\text{TAP}(\text{ppm}) \times (\text{gram molecular wt.})] / 24.45 = \text{TAP} (\text{mg}/\text{m}^3)$$

Conversion of vapor space sample from mg/m^3 to pounds per hour at $5.7 \text{ m}^3/\text{min}$:

$$[\text{TAP} (\text{mg}/\text{m}^3)] \times (339.8 \text{ m}^3/\text{hr}) \times (\text{lb} / 453,593 \text{ mg}) = \text{TAP} (\text{lb} / \text{hr})$$

Conversion of vapor space sample from mg/m^3 to pounds per hour at $5.7 \text{ m}^3/\text{min}$:

$$[\text{TAP} (\text{mg}/\text{m}^3)] \times (339.8 \text{ m}^3/\text{hr}) \times (\text{lb} / 453,593 \text{ mg}) = \text{TAP} (\text{lb} / \text{yr})$$

Where operating time = 672 hr /6 mo

TAP = individual Class A or Class B TAP

Note: the vapor space sampling data comes from the TWINS database

MODEL 10C Description: VOC emissions on a daily average

Compliance with NSR VOC emission limit on a daily average:

$$[2 \text{ ton (2000 lb/ton)}]/365 = 24[(\text{VOC mg/m}^3) \times (339.8 \text{ m}^3/\text{hr}) \times (\text{lb} / 453,593 \text{ mg}) = \text{VOC (lb/day)}$$

Where:

2 tons/year = WAC 174-400-110 NSR threshold for VOCs

1 year = 365 days

1 day = 24 hours

339.8 m³/hr = volumetric flow rate

1 lb = 453,593 mg

VOC mg/m³ = vapor space sampling data from the TWINs database

Attachment 2

HANFORD RADIOACTIVE AIR EMISSION LICENSE

State of Washington Department of Health

License Number: FF-01

(as part of NWP-AOP-00-05-006)

Issue Date: June 11, 2001

Effective Date: July 2, 2001

Expiration Date: June 30, 2006

The Licensee; U.S. Department of Energy, Hanford Site, 825 Jadwin Ave., Richland, Washington 99352; is required to comply with all applicable paragraphs contained in the chapter 246-247 Washington Administrative Code (WAC) Radiation Protection -- Air Emissions.

Dated at Richland, Washington this 16 day of May 2001

Reviewed By:



License Writer

Approved By:



Head, Air Emissions and Defense Waste Section

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1.0 EMISSION STANDARDS

The emission of radionuclides to the ambient air from the Department of Energy facility as set forth in 40 CFR 61.92 shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem per year. [WAC 246-247-040]

2.0 APPLICABLE REQUIREMENT TERMS

WAC 246-247 is a state only applicable requirement.

2.1 *Notice of Construction Requirements*

A Notice of Construction (NOC) is written information submitted under WAC 246-247-060(1) and (2) that provides information listed in WAC 246-247-110 "Appendix A - Application information requirements." This information must include the total effective dose equivalent (TEDE). The equivalent dose is calculated using the source term derived from 40 CFR Part 61 Appendix D, or other EPA, or State of Washington, Department of Health (Health) approved method. The calculated emissions are input to the dispersion and other computer models described in 40 CFR 61.93 using abated emissions to calculate the dose.

WAC 246-247-060(1) requirements for new construction or modification of emission units are as follows:

Early in the design phase, the applicant shall submit a NOC containing the information required in Appendix A of WAC 246-247.

Within thirty days of receipt of the NOC, Health shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with Appendix B or C of WAC 246-247, respectively.

Within sixty days of receipt of all required information, Health shall issue an approval or denial to construct. The department may require changes to the final proposed control technology.

The applicant may request a phased approval process by so stating and submitting a limited application. Health may grant a conditional approval to construct for such activities as would not preclude the construction or installation of any control or monitoring equipment required after review of the completed application.

Health shall issue a license, or amend an existing license, authorizing operation of the emission unit(s) when the proposed new construction or modification is complete. For facilities subject to the air operating permit requirements of chapter 173-401, the license shall become part of the air operating permit issued by the Department of Ecology or a local air pollution control authority. For new construction, this action shall constitute registration of the emission unit(s).

WAC 246-247-060(2) requirements for modification of unregistered emission units that are not exempt from the regulations are as follows:

The applicant shall submit an application containing the information required in Appendix A of WAC 246-247.

Within thirty days of receipt of the application, Health shall inform the applicant if additional information is required. The department may determine, on the basis of the information submitted, that the requirements of BARCT or ALARACT have been met, or may require the applicant to submit a BARCT or ALARACT demonstration compatible with Appendix B or C of WAC 246-247, respectively.

Within sixty days of receipt of all required information, Health shall issue or amend the license. For facilities subject to the air operating permit requirements of Chapter 173-401, the license shall become part of the air operating permit issued by the department of ecology or a local air pollution control authority. This action shall constitute registration of the emission unit(s). A determination of non-compliance may result in the issuance of a Notice of Violation.

Health reserves the right to require the owner of an existing, unregistered emission unit to make modifications necessary to comply with the applicable standards of WAC 246-247-040.

The department of Energy shall notify the department of Health at least seven calendar days before any planned pre-operational tests of new or modified emission units that involve emissions control, monitoring, or containment systems of the emission unit(s). The department reserves the right to witness these tests under WAC 246-247-060 (4).

2.2 ALARACT Demonstration Requirements

The ALARACT requirement means the use of radionuclide emission control technology that achieves emission levels that are consistent with ALARA. ALARACT compliance is demonstrated by evaluating the existing control system and proposed nonsignificant modification in relation to applicable technology standards and other control technologies operated successfully in similar applications. An ALARACT compliance demonstration is used for inspection or audit purposes, and to demonstrate compliance with the substantive ALARACT technology standard. The requirement for these demonstrations is considered applicable to this license. Demonstrations reflect good industrial practice and will minimize emissions until the work practices can be completed. Determination of whether good industrial practice is being used will be based on available information such as, but not limited to, monitoring results, review of operations and maintenance procedures, and inspections of the emission unit or equipment. Specific provisions of the ALARACT demonstrations other than those required by specific requirements in this license and monitoring activities under section 3, 5, and in tables 1.1, 1.2, and 2.1 shall not be deemed a part of this license. [WAC 246-247 030(4)] [WAC 246-247 130(Appendix C)]

2.3 Federally Enforceable Requirements

40 CFR 61 is a federally enforceable applicable requirement

DOE must submit to the U.S.EPA Region X Administrator, applications for approval of construction for any new source or modification of any existing source that emits radionuclides as required by 40 CFR 61.07 and 40 CFR 61.96. Additionally, DOE shall submit notifications of startup as required by 40 CFR 61.09.

Federal Facility Compliance Agreement – The FFCA was signed on February 2, 1994. A provision in the FFCA requires quarterly status reports until the FFCA is complete (V. Reporting). Also within the FFCA is a schedule to evaluate additional Hanford stacks by August 31, 1995 (Appendix A III. Identified Nonregistered Stacks). The evaluation was made and a schedule was negotiated with EPA Region X for the completion of upgrades on stack sampling systems. Table 1.1 gives the status of these designated stacks. The schedule along with identified milestones and stack status is incorporated into the quarterly status reports provided to EPA Region X. The latest report is found in Attachment 4 to this permit.

3.0 MONITORING AND TESTING

3.1 *Monitoring and Testing for Tables 1.1 and 1.2*

All required monitoring must be performed under WAC 246-247-075 and described in the paragraphs referenced below.

All required stack monitoring not otherwise specified shall conform to the monitoring and testing requirements of 40 CFR 61, Subpart H published in the Federal Register on December 15, 1989

All required monitoring equipment shall conform to the requirements in WAC 246-247-075(2).

In accordance with WAC 246-247-075(4) approval may be granted by the department to allow alternative monitoring procedures if continuous monitoring is not a feasible or reasonable alternative. Periodic confirmatory measurements, when employed, must be performed during process operations to verify low emissions. Under 40 CFR 61.93(b)(2)(ii), samples must be collected with sufficient frequency to provide a representative sample of the emissions during normal operations.

Figure 1. may be used to select an approved alternate monitoring scenario for stacks listed in Table 1.2 (stacks with PTE < 0.1 mrem/yr). A seven-day notification must be given to the Department before implementing a chosen scenario.

The department may require the owner or operator to make provisions at existing emission unit sampling stations, for the department to take split or co-located samples of the emissions.

[WAC 246-247-075(10)]

Note: Monitoring and sampling or measurement for emission units listed in Tables 1.1 and 1.2 needs only to occur if the emission unit operates during the year.

The shrouded probe is an approved stack sampling technology for both continuous monitoring of major stacks and periodic confirmatory measurement of minor stacks.

[WAC 173-401-615]

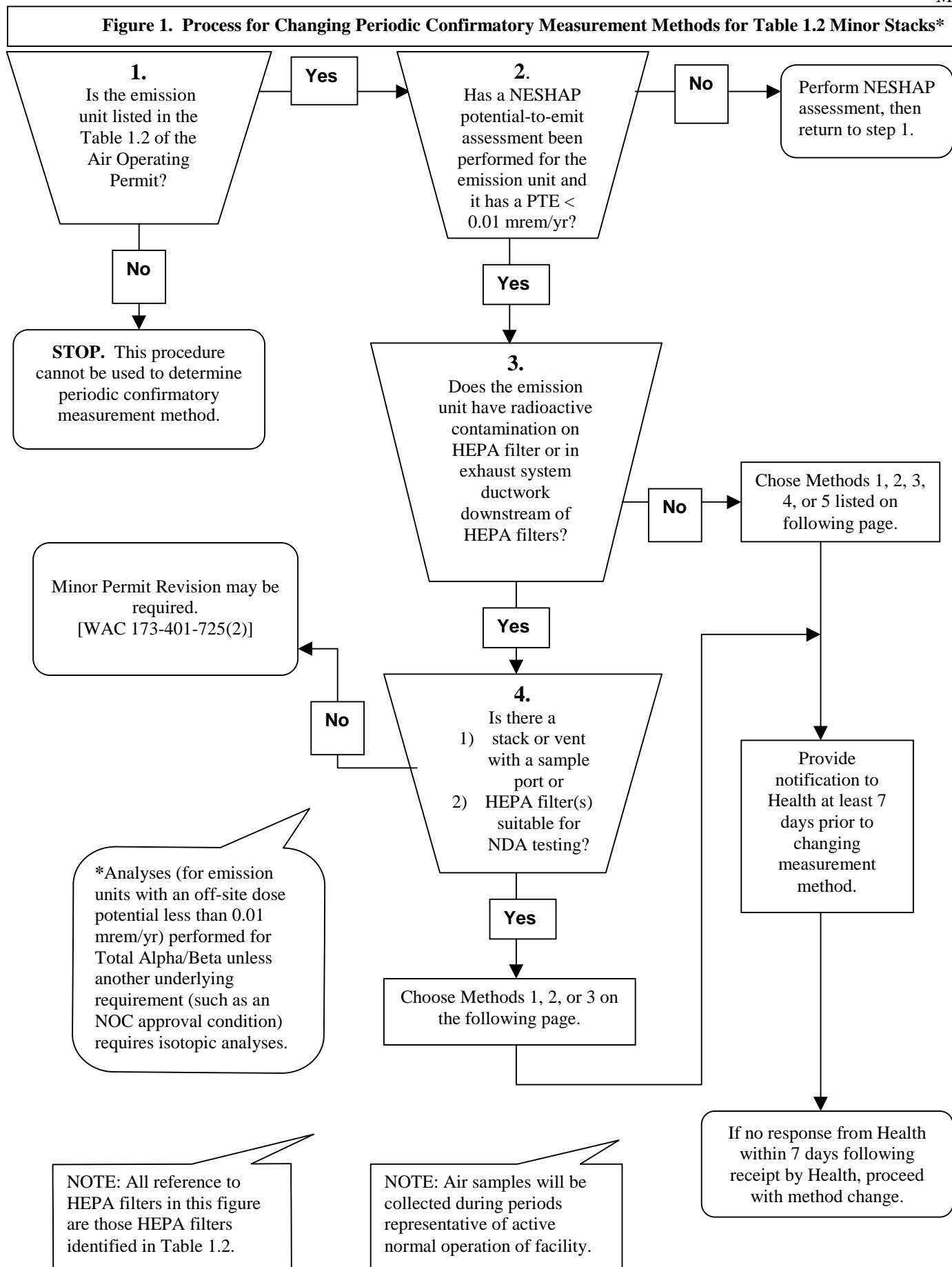
Figure 1. Process for Changing Periodic Confirmatory Measurement Methods for Table 1.2 Minor Stacks*

Figure 1. Continued (Process for Changing Periodic Confirmatory Measurement Methods for Table 1.2 Minor Stacks)

Acceptable Methods

	Method 1. Perform Record Stack Sampling a minimum of one week per calendar year or as negotiated with Health.	
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	Method 2. Perform NDA test a minimum of one time every calendar year or as negotiated with Health.	
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	Method 3. Engineering Calculations	
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	Method 4. Upstream air samples from areas within the facility with representative radioactive contamination performed a minimum of one week per calendar year at each sample location or as negotiated with Health	
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	Method 5. Wipe samples of interior surfaces with representative radioactive contamination a minimum of once per calendar year or as negotiated with Health.	
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3.2 Compliance Assurance Monitoring

This section specifically addresses newly discovered sources of emissions from the legacy of operations on the Hanford site. The licensee must establish methods to assure compliance for any unlicensed source of radioactive airborne emissions at Hanford. These methods must determine a means to describe emission monitoring, recordkeeping, and reporting. The licensee must document the compliance methods and notify the department for inclusion into the license. The department will evaluate the compliance methods and may determine that additional monitoring is necessary. Upon approval, the department will identify and add the emission source in the license by an administrative modification to the permit.

[WAC 246-247-060]

4.0 QUALITY ASSURANCE, REPORTING AND RECORDKEEPING

4.1 Quality Assurance for Tables 1 and 2.

A quality assurance program must be conducted and documented under the standards referenced in WAC 246-247-075(6) and 40 CFR Part 61, Method 114 (4) Quality Assurance Methods.

Under WAC 246-247-075(6), the licensee must have a documented quality assurance program compatible with the applicable national standards such as ANSI/ASME NQA-1, NQA-2, QAMS-004 and QAMS-005.

The licensee must respond to formal audit findings and corrective actions documented by Health. Written response must include measures to prevent recurrence and action(s) taken or planned. Health will evaluate the adequacy of the audit responses and may take follow-up actions to verify that corrective action was accomplished.”

[WAC 246-247-080(11)]

The licensee must be able to demonstrate the reliability and accuracy of the radioactive air emissions monitoring data.

[WAC 246-247-075(13)]

4.2 Recordkeeping

Records must be maintained on site for a period of five years from the date of the monitoring sample, measurement, report or application for all required monitoring data and support information. Support information includes all calibration and maintenance records, all original continuous monitoring records (such as strip charts or equivalent), and required reports.

[WAC 246-247-080(8), WAC 173-401-615(2)(a), WAC 173-401-615(2)(c)]

The following is a list of requisite retrievable records. Electronic or hard copy records will satisfy these requirements.

Sub-section 1 - Records Required by 40 CFR 61.14 (f) and WAC 246-247-080.

[Note: For NESHAP Major Designated Stacks Only]

Calibration Records

- Records and procedures for stack sampling system instrumentation , functional checks/periodic calibrations (i.e. vacuum gauges, rotameters, and gas meters).

Monitoring Data

- Stack flow data, and sampling data including flow rate calculations (e.g. vent and balance).
- The Radioactive Air Emissions Report for the Hanford Site (NESHAP annual report)
- Documentation verifying compliance with Quality Assurance requirements of 40 CFR 61, Subpart H, Appendix B, Method 114 (e.g., The Quality Assurance Program for Radionuclide Airborne Emissions Monitoring, the Effluent Monitoring Quality Assurance Project Plan for Radioactive Airborne Emissions Data, and the Quality Assurance Plan for Facility Effluent Monitoring.)
- Records documenting periods of malfunction or in operation (i.e., monitoring system down time)

Sub-section 2 - Records Required by 40 CFR 61.95 and WAC 246-247-080.

[Note: As Applicable, For All Sources of Radioactive Air Emissions]

Monitoring Data (for powered, ventilated point sources)

- Stack flow data, and sampling data including flow rate calculations (e.g. vent and balance).
- The Radioactive Air Emissions Report for the Hanford Site (NESHAP annual report)
- NESHAP assessments

Passively Ventilated Point Sources

Nonpoint Source and Fugitive Emissions

- The Radioactive Air Emissions Report for the Hanford Site (NESHAP annual report)
- The annual Hanford Site Environmental Report

Notices of Construction

- Notice of Construction Applications
- Approval orders from WDOH including any approval conditions
- Approval to construct letters from EPA.

Sub-section 3 - State-only Records Required by WAC 246-247-080(8)

BARCT and ALARACT Demonstrations

- Records of Best Available Radionuclide Control Technology (BARCT) and/or As Low As Reasonably Achievable Control Technology (ALARACT) demonstrations

Drawings and Blueprints (for major stacks)

- Configuration drawings and/or process flow diagrams of radioactive air emission unit effluent control and monitoring systems

Line Loss Studies (if performed)

- Estimated and documented line losses and sample collection efficiency studies completed at the direction of the WDOH

Calibration and Maintenance Records and Procedures

- Maintenance records, maintenance procedures, and all original strip chart records (major stacks) or equivalent for all stack sampling system instrumentation (e.g., continuous air monitoring-record samplers, probes, pumps, rotameters, flow regulators, pressure gauges, totalizers, gas meters, and flow switches) as appropriate for methods identified in Tables 1.1 and 1.2
- Functional checks/periodic calibration records and procedures for all nondesignated stack instrumentation (i.e., vacuum gauges, rotameters, and gas meters).
- Maintenance records and maintenance procedures for required abatement control technology equipment identified in Tables 1.1 and 1.2

Efficiency Tests of high efficiency particulate air (HEPA) filters

- Test procedures and results of the HEPA filter/aerosol tests.

Training

- Training records of personnel and supervisors specific to the operation and maintenance of radioactive air emission units.

Reports

- Reports of closure
- 10-day notification follow-up reports

Operation Log

- Categorically approved units
- Specific regulatory order approval condition

Quality Assurance Program

- Documentation verifying compliance with Quality Assurance requirements of WAC 246-247-075(6) (e.g., The Quality Assurance Program for Radionuclide Airborne Emissions Monitoring, the Effluent Monitoring Quality Assurance Project Plan for Radioactive Airborne Emissions Data, and the Quality Assurance Plan for Facility Effluent Monitoring.)

A log must be maintained under WAC 246-247-080(7) for portable units given categorical approval to operate under this license. The log must contain relevant operation parameters including the date, location, duration of the release, measured or calculated radionuclide concentrations, the type of emissions (liquid, gaseous, solid), and the type of emission control and monitoring equipment. [WAC 173-401-615(2)]

4.3 Reporting

Reports must be submitted as required in section 4.3 of the Standard Terms and Conditions of the Hanford Air Operating Permit.

5.0 EMISSION UNITS SPECIFIC APPLICABLE REQUIREMENTS TABLES

The following tables list the regulatory requirements for monitoring, emission abatement and specific limits and conditions in approved Notice of Construction applications.

Abatement technology identified in the following tables are state-only enforceable requirements.

Table 1.1 and 1.2 identify specific BARCT and ALARACT requirements for major (NESHAP designated) stacks and minor (non-designated) stacks, respectively. Required abatement technology includes:

1. Primary controls, e.g. HEPA filters, carbon filters.
2. Other listed equipment necessary to ensure the integrity or support the operations of the primary controls.
3. Fans identified as required abatement technology equipment are exhaust fans.
4. The use of units identified as backup, standby, and intermittent units do not constitute the loss of required emission controls.

Table 2.1 identifies passively ventilated minor point sources in high level waste tank farms with emission controls.

Emission unit monitoring identified in the following tables are applicable federal and state enforceable requirements.

Table 1.1 identifies specific monitoring and testing requirements, isotopic measurements, and sampling frequencies for major (NESHAP designated) stacks.

Table 1.2 identifies specific monitoring, testing and sampling requirements and frequencies for minor (non-designated) stacks. Methods for required sampling include, but are not limited to, record sampling, upstream sampling, and engineering calculations, wipe samples and non-destructive assessment (NDA).

Table 2.1 identifies passively ventilated minor source monitoring requirements for high level waste tank farms.

Table 1.3 identifies non-point emission monitoring requirements. (Ref: WAC 246-247-075(8)).

Tables 1.1, 1.2, and 1.3 also contain Notice of Construction conditions and limits for approval to construct, modify, and operate an emission unit; and identifies Federal or State only applicable requirements under 40 CFR 61.06, or WAC 246-247-060 respectively.

Note: Numerical reference of NOC conditions in tables 1.1, 1.2, and 1.3 may differ from the conditions numbered in the original NOC approval under the referenced AIR letter number. Reference to approval condition numbers in other listed conditions, refers to the number in the underlying AIR approval letter.

(1) All information from the NOC approval must represent the emission unit(s) and are considered applicable requirements. Modification approval is required before any change is made to a specific applicable requirement. Modification approval is required if this change could increase the amount of radioactive materials emitted or may result in the emission of any radionuclide not previously emitted. Modification approval is not required for any process system change, or description in any NOC that qualifies under the provisions of WAC 173-401-722 and 724.

(2) Inspections reporting, and record keeping shall be maintained under WAC 246-247-080.

(3) Monitoring, testing, and quality assurance shall be performed under WAC 246-247-075.

***ABATEMENT TECHNOLOGY SPECIFIC REQUIREMENTS.**

(Applicable to the DCRTs listed in Table 1.1)

1. May continue to operate with existing unmodified equipment provided continued operations do not include new or modified source terms outside of existing mission.
2. The existing system may not be used to support decontamination and decommissioning without Health's prior approval.

Exclusions to conditions 1 and 2:

Conditions 1 and 2 shall not apply to activities to isolate and /or stabilize each facility for near- or long-term safe passive or active management.

3. Operations to support the existing missions may continue using exiting filter test methods.
4. A date for cessation of operations or a schedule for upgrade will be provided if life and mission extension is proposed.
5. Restart of active ventilation after the cessation date will require notification to Health and could be subject to inspection by Health verifying ALARACT.
6. Enhanced emissions trending with defined parameters be provided for, process, frequency, and action levels. Process support equipment (fan interlocks, DP gauges, etc.) shall be regulated as abatement technology for these units.
7. It is recognized extended facility life is possible for 244-A, 244-S and 244-TX. These units are to be assessed for standards compliance and/or actions triggering modification under WAC 246-247-040 and WAC 246-247-060, respectively, if life and mission extension is requested. Upgrades will be evaluated and implemented accordingly.

Note: All Tank Farm stacks and associated equipment operate intermittently.

Table 1.1 Requirements for major point sources**100K Cold Vacuum Drying****Cold Vac. Drying**

COLD VACUUM DRY SYSTEM BLDG (CVS)

Emission Unit ID: 436

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93(b)(4)(i) &
WAC 246-247-075(3)All radionuclides which
could contribute 10% of the
potential EDE.

Monthly Sample

This Emission Unit has 3 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Cold Vacuum Drying Facility, Phase II	NOC revision approval	3/21/2000	438

Conditions (state only enforceable)

- 1) No WDOH conditions apply to this NOC.

Project Title	Approval No.	Date Approved	NOC_ID
Cold Vacuum Drying Facility, Project W-441, Phase II, Revision 1	AIR 99-804	8/5/1999	382

Conditions (state only enforceable)

- 1) This approval, with its Conditions and Limitations, constitutes and amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 2) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 3) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 4) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 5) The abated dose limit for this facility shall not exceed 0.0042 mrem/yr to the MEI as described in the NOC revision.

- 6) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 7) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).
- 8) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(6)).
- 9) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5).
- 10) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 11) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet
- 12) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 13) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 14) These conditions and limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 15) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above-cited regulation.
- 16) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance (WAC 246-247-060-(2)(d)).
- 17) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 18) Equipment and procedures for continuous monitoring shall conform to ANSI N13.1 (1999). The specific design must be approved by the department prior to installation. Any deviation from ANSI N13.1 must be approved by the department prior to construction (WAC 246-247-075(2)).
- 19) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).

Project Title	Approval No.	Date Approved	NOC_ID
Cold Vacuum Drying - Phase II	AIR 97-605	6/19/1997	229

Conditions (state only enforceable)

- 1) The CVDF shall consist of up to six process bays in which SNF transport trailers can be housed while water is drained and vacuum/gas purge process dries SNF. It shall have a support area consisting of a control room, change rooms,

and other functions.

- 2) All controls, as described in the amended NOC are required, & building HEPA filters meet ASME/ANSI N509 &N510.
- 3) The stack monitoring system must be continuous and NESHAPs compliant.

200 P-296P032-001**296-P-32**

ROTARY MODE CORE SAMPLER

Emission Unit ID: 145

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	1-flow path with 2 HEPA's
	HEPA	2	
	Prefilter	1	
	Heater	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Use of a portable exhauster at 244-AR Vault., Rev. 2	RTAM	2/17/1999	343

Conditions (state only enforceable)

- 1) The stack identification numbers 296-A-12 and 296-A-13 cannot be used to identify the portable exhauster WDOH. WDOH shall be notified of the stack identification number prior to startup.
- 2) If personnel enter the building during air jetting or transfers the exhauster must be operating to pull a negative pressure through the controls. A negative pressure must be pulled on all four tanks through a common header at 5.7 cubic meters/minute.
- 3) Monitoring system: The stack sampler will operate continuously during exhauster operation and it shall be considered a NESHAPS major stack. The monitoring system design and operation shall be fully compliant with 40 CFR 61 and ANSI N13.1 requirements & guidance.
- 4) 296-A-13 cannot be used for two separate emission units with different monitoring and control equipment.
- 5) The project described in the NOC, DOE/RL-97-05 Revision 2, is approved with the following conditions and limitations: Process Description: The 244-AR Vault portable exhauster shall be only allowed for air jetting activities of accumulated liquids from the cell sumps into the tanks and for transfers among the tanks within the vault. Permission to use the exhauster for other purposes is strictly not approved.
- 6) The approval to operate the exhauster is valid for ten years from the date of this letter. Operations beyond that

time requires re-approval.

- 7) The G-1 filter shall be fully testable to ANSI/ASME N509/510 standards and shall be successfully tested before use in this application.
- 8) Abated Dose: The potential abated dose to the maximally exposed individual is not to exceed 2.1×10^{-4} millirem per year. Actual emissions are limited to the abated curies per year listed in Table 2 of AIR 97-1007. No radionuclide that is not listed in this table may be emitted in any detectable concentrations.
- 9) All health physics practices, contamination control and monitoring activities applicable to the control and monitoring of radioactive air emissions must be incorporated into procedures prior to beginning this project.
- 10) Control System: The ventilation system will be comprised of a G-1 Series HEPA filter, a prefilter, two HEPA filters, all in series, and the exhaust fan and stack. The RMCS dual HEPA filters shall be testable as a single unit for this application only and are acceptable as equivalent for this NOC only. They must be successfully tested before
- 11) The calculated offsite dose from this project shall not exceed 2.1×10^{-4} mrem/yr to the maximally exposed individual.
- 12) This approval to commence the project is valid for two years from the date of this letter. If the project does not commence within that window, the approval is void.

200 P-296P033-001**296-P-33**

ROTARY MODE CORE SAMPLER

Emission Unit ID: 144

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	1 flow path with 2 HEPA's each
	HEPA	2	
	Prefilter	1	
	Heater	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Rotary Mode Core Sampling (RMCS) Systems 3 & 4, Rev. 1	AIR 98-301	3/6/1998	261

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated September 3, 1997 (AIR 97-901) are applicable. There are no new WDOH conditions that apply to this NOC.

200 P-296P034-001**296-P-34**

ROTARY MODE CORE SAMPLER

Emission Unit ID: 253

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	1 flow path with 2 HEPA's
	HEPA	2	
	Prefilter	1	
	Heater	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Rotary Mode Core Sampling (RMCS) Systems 3 & 4, Rev. 1	AIR 98-301	3/6/1998	261

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated September 3, 1997 (AIR 97-901) are applicable. There are no new WDOH conditions that apply to this NOC.

200E P-296A042-001**296-A-42**

241-AN TANK FARM

Emission Unit ID: 93

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths
	HEGA	1	2 parallel flow paths
	HEPA	2	Before and After the HEGA (gas absorber) 2 parallel flow paths
	Heater	1	2 parallel flow paths with 1 operational
	HEME	1	
	Condenser	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	90Sr	Continuous

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
241-AY and 241-AZ Ventilation Upgrades	NOC revision approval	1/19/1999	333

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated July 10, 1998 (AIR 98-708) are applicable. There are no new WDOH conditions that apply to this NOC.

Project Title	Approval No.	Date Approved	NOC_ID
241-AY and 241-AZ Ventilation Upgrades	AIR 98-708	7/10/1998	286

Conditions (state only enforceable)

- 1) The NOC constitutes a contract between the department and the facility. The department must approve any

- 2) The department reserves the right at any time to require the licensee to provide for split or collocated sampling of this emission unit (WAC 246-247-075(10)).
- 3) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from the facility (WAC 246-247-075(13) and (WAC 246-247-075(6)). The facility must demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 4) Continuous monitoring must be in place prior to operating. This will include continuous ambient air sampling for this project.
- 5) Any problems, which could affect the monitoring, ventilation or controls to this facility must be reported to the department.
- 6) WDOH Conditions and Limitations dated July 10, 1998 (AIR 98-708) are applicable. There are no new WDOH conditions that apply to this NOC.
- 7) Nothing may be inferred that is not specifically described in the NOC.
- 8) The emission limit (abated) for this emission unit is $1.81\text{E-}3$ mrem/yr to the MEI (WAC 246-247-040(5)).
- 9) An ALARACT demonstration may be required at any time by the department. WAC 246-247-080(1)).
- 10) Abatement controls are those required to be in place at the point effluent enters the vapor space, not necessarily at a common header. Therefore, the following are required control: the recirculating and cooling system coming off each tank, consisting of a condenser, evaporative tower, pump and moisture separator; a condenser at the common header, with a water chiller, and pump, a high efficiency moisture eliminator; an electric heater, two parallel sets of HEPA filters, each with a high efficiency gas absorber. Down time for any of these components must be negotiated with the department.
- 11) The ventilation flow rate is limited to a maximum of 0.5 cubic meters per second.
- 12) All conditions and limitations must be proceduralized prior to the implementation of this NOC.
- 13) Any deviation from the description of the modification or new construction, without approval of the department, may result in enforcement action under WAC 246-247-100.
- 14) The department must approve any deviation from required or recommended monitoring standards.
- 15) Preoperational tests planned for this unit, requirement for notification at least seven days prior to such testing under (WAC 246-247-060(4)) will apply.
- 16) All records required by WAC 246-247 must be readily (promptly) retrievable, and must be stored onsite at the facility. All records shall be maintained for a minimum of five years (WAC 246-247-080(8)).
- 17) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 18) The department reserves the right to conduct an environmental surveillance program around this emission unit and to require the facility to conduct or modify its own environmental monitoring program (WAC 246-247-075(9)).
- 19) The monitoring system must be ANSI N13.1 and ANSI N42.18 compliant. It is understood the department has approved the system as an acceptable alternative method (Reference: AIR 98-108 and AIR 98-207)

200E P-296AYAZ-001**296-A-17**

241-AY/AZ TANK FARM

Emission Unit ID: 221

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
	HEPA	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
	Heater	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
	De-entrainer	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173-401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	137Cs	Continuous

200E C-106 Sluicing**296-C-6**

241-C TANK FARM

Emission Unit ID: 236

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	
	HEPA	2	In series
	Heater	1	
	High Efficiency Metal Filter	1	
	High Efficiency Mist Eliminator	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-075(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
241-C-106 Sluicing Phase II Rev2	NOC Revision	4/8/1999	468

Conditions (state only enforceable)

- 1) A new stack height will constructed to 5.7 meters and using a rain deflector to direct emissions up.
- 2) Gas stack sampling probes will be installed two duct diameters a head of the record sampling probe inlet in accordance with paragraph 2.1.1 of Method 1A, 40 CFR 60, Appendix A as required by 40 CFR 61.93 (b)(2)(I).

Project Title	Approval No.	Date Approved	NOC_ID
241-C-106 Tank Sluicing, Phase II, Rev. 2	AIR 98-1002	10/2/1998	310

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all requirements and limitations of this license.
- 2) The facility shall make requested documents available in a timely manner for review.

- 3) Other Conditions: 1) any problems, which could affect the monitoring, ventilation, or controls to this facility must be reported to the department. WDOH is to be notified if the record sampler is not continuously operated as required. WDOH must be notified of differential pressure alarms on the HEPA filters, the HEME, and HEMF. WDOH must also be notified when the HEME or HEMF is taken off line due to a system abnormality. If the HEME, or HEMF needs to be bypassed due to planned maintenance or other planned activity, WDOH must be informed prior to the bypass occurring. WDOH is to be notified of actual loss of the electric heater or failure of the heater that takes the off-gas temperature outside of the normal operating limits. WDOH is to be notified of wetting of the filter train, any visible liquid in the HEPA filter drain sight glass or shifting of the filter due to operational upset or anomaly. 2) The NOC constitutes a contract between the department and the facility. The department must approve any changes. 3) The department must approve any deviation from required or recommended monitoring standards. 4) Nothing may be inferred that is not specifically described in this NOC.
- 4) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(9)).
- 5) The required controls are: The abatement controls are those required to be in place at the point the effluent enters the vapors space and includes the recirculation system. High Efficiency Mist Eliminators (HEME), High Efficiency Metal Filter (HEMF), a heater, two HEPA filters in series, and a fan.
- 6) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne release occur.
- 7) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 8) The radionuclides are limited to: Those described in Table I of the August 28, 1998 DOE letter 98-EAP-469.
- 9) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 10) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 11) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 12) The process is limited to the mobilizing and retrieving waste in 241-C-106 tank, conveying waste out of 241-C-106 tank, transferring waste to the 241-AY-102, filtering radioactive particulates and vapors, removing heat to maintain safe temperature levels, monitoring and controlling operations, and shielding and maintenance actions.
- 13) The annual possession quantity is limited to: The annual possession quantity is as described in Section 7.0 of the Notice of Construction for Project W-320, Tank 241C-106 Sluicing.
- 14) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 15) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above-cited regulation.
- 16) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 17) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction ,as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 18) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use an maintenance of emission control and monitoring systems, and in the performance of associated test and

emergency response procedures.

- 19) U.S. DOE shall monitor this project or emission unit as follows: Continuously stack sampling must occur during operation of the emission unit. The sampling system must meet ANSI N13.1 and ANSI 42.18. This will include continuous ambient air sampling for this project. The definition of "continuous ambient air sampling" refers to the Near-Field Monitoring program conducted by Waste Management Hanford (WMH). The definition of continuous is being negotiated between WDOH and DOE.
- 20) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 21) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 22) The abated emission limit is: $2.05\text{E-}07$ mrem/yr to the MEI.
- 23) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).

200E P-296P016-001**296-P-16**

241-C TANK FARM

Emission Unit ID: 234

FFCA Status: Not in Compliance. Schedule for Upgrade by 4/30/2006. Federally enforceable only.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]

	Fan	1	
	HEPA	2	In series
	Prefilter	1	
	Heater	1	
	De-entrainer	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades Resume Work Strategy (Project W-420)	RTAM	5/6/1999	365

Conditions (state only enforceable)

- 1) Use the APQ, in Curies, as the governing requirement for compliance with the NOC.
- 2) Determine how much of APQ was reached due to contamination encounter thus far in the excavation work.
- 3) Track any remaining contamination as it is encountered and subtract it from the NOC's APQ. Keep a running total of the actual field encountered APQ to show that the NOC APQ will not be exceeded.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades (Project W-420)	AIR 99-115	1/29/1999	339

Conditions (state only enforceable)

- 1) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.

- 2) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 3) The facility shall make requested documents available in a timely manner for review.
- 4) The abated emission limit is: $2.89\text{E-}3$ mrem/yr to the MEI.
- 5) The facility must maintain a log in an approved format for this activity or emission unit.
- 6) The required controls are: Wind speed construction of 20 mph, HPT coverage, engineering and controls
- 7) The facility's modification activity shall consist of replacing the stack and its associated sampling and monitoring equipment. Portions of existing concrete pads will be removed and the soil excavated to accommodate the installation of utilities (power, signal lines, etc.) The existing ventilation and stack sampling systems will remain operational during the excavation activities but will be shut down during stack and equipment removal and the relocation of the equipment cabinet to a temporary near-by location.
- 8) The annual possession quantity is limited to:
For Excavation Activities: Sr-90, $5.51\text{E-}03$ Ci; Am-241, $2.21\text{E-}01$ Ci
For Equipment Removal Activities: Sr, $1.72\text{E-}06$ Ci; Am-241, $2.68\text{E-}07$ Ci
- 9) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 10) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 11) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 12) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 13) The radionuclides are limited to Sr-90 and Am-241:
For Excavation Activities: Sr-90, dose $2.41\text{E-}07$ mrem/year to the MEI;
Am-241, dose $2.89\text{E-}03$ mrem/yr to the MEI
For Equipment Removal Activities: Sr-90, dose $3.08\text{E-}10$ mrem/year to the MEI;
Am-241, dose $1.43\text{E-}08$ to the MEI
- 14) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 15) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 16) All measured or calculated emissions must be reported annually.
- 17) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 18) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in WAC 246-247-075(6).
- 19) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 20) U.S. DOE shall comply with all Conditions and Limitations of this license.
- 21) Radiological field surveys will be performed during replacement of the stack and associated sampling and monitoring equipment. HPT coverage will be provided during excavation with these activities stopping if evenly distributed (i.e., non-speck) contamination detection reading of 100,000 dpm/100cm² beta-gamma, or 35 dpm/100cm² above background alpha are encountered. If contamination levels in affected areas are greater than 1,000 dpm/100cm² beta gamma and 20 dpm/100cm² alpha, contamination controls including bagging and taping, applying fixatives,

foaming, or glove bags will be used. A 20 mph sustained wind speed restriction shall apply to all demolition and replacement work. When ventilation is restored, between shutdown and completion of the upgrades, the stack emissions measurement system will be restored.

- 22) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).

200E P-244A-001**296-A-25**

244 -A-LIFT STATION

Emission Unit ID: 222

FFCA Status: Not in Compliance. Schedule for Upgrade by 4/30/2006. Federally enforceable only.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]
* Technology Specific Requirements			
	Fan	1	
	HEPA	2	2 in series 2 in parallel flow paths
	Prefilter	1	Two parallel flow paths.
	Heater	1	Both tank and annulus connect before going through the heater

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades (Project W-420)	AIR 99-115	1/29/1999	339

Conditions (state only enforceable)

- 1) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 2) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 3) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.

- 4) Radiological field surveys will be performed during replacement of the stack and associated sampling and monitoring equipment. HPT coverage will be provided during excavation with these activities stopping if evenly distributed (i.e., non-speck) contamination detection reading of 100,000 dpm/100cm² beta-gamma, or 35 dpm/100cm² above background alpha are encountered. If contamination levels in affected areas are greater than 1,000 dpm/100cm² beta gamma and 20 dpm/100cm² alpha, contamination controls including bagging and taping, applying fixatives, foaming, or glove bags will be used. A 20 mph sustained wind speed restriction shall apply to all demolition and replacement work. When ventilation is restored, between shutdown and completion of the upgrades, the stack emissions measurement system will be restored.
- 5) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 6) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in WAC 246-247-075(6).
- 7) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 8) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 9) All measured or calculated emissions must be reported annually.
- 10) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 11) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 12) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 13) The facility shall make requested documents available in a timely manner for review.
- 14) The facility's modification activity shall consist of replacing the stack and its associated sampling and monitoring equipment. Portions of existing concrete pads will be removed and the soil excavated to accommodate the installation of utilities (power, signal lines, etc.) The existing ventilation and stack sampling systems will remain operational during the excavation activities but will be shut down during stack and equipment removal and the relocation of the equipment cabinet to a temporary near-by location.
- 15) The required controls are: Wind speed construction of 20 mph, HPT coverage, engineering and controls
- 16) The radionuclides are limited to Sr-90 and Am-241:
For Excavation Activities: Sr-90, dose 4.14E-07 mrem/year to the MEI;
Am-241, dose 4.96E-03 mrem/yr to the MEI
For Equipment Removal Activities: Sr-90, dose 5.86E-11 mrem/year to the MEI;
Am-241, dose 3.51E-10 to the MEI
- 17) The annual possession quantity is limited to:
For Excavation Activities: Sr-90, 9.45E-03 Ci; Am-241, 3.79E-01 Ci
For Equipment Removal Activities: Sr, 3.17E-07 Ci; Am-241, 6.33E-09 Ci
- 18) The abated emission limit is: 4.96E-3 mrem/yr to the MEI.
- 19) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 20) The facility must maintain a log in an approved format for this activity or emission unit.
- 21) U.S. DOE shall comply with all Conditions and Limitations of this license.
- 22) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).

200E P-244BX-001**296-B-28**

244-BX-DCRT

Emission Unit ID: 208

FFCA Status: Not in Compliance. Schedule for Upgrade by 4/30/2006. Federally enforceable only.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]
* Technology Specific Requirements			
	Fan	1	
	HEPA	2	3 parallel flow paths
	Prefilter	1	3 parallel flow paths
	Heater	1	Annulus exhaust is not heated

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades Resume Work Strategy (Project W-420)	RTAM	5/6/1999	365

Conditions (state only enforceable)

- 1) Use the APQ, in Curies, as the governing requirement for compliance with the NOC.
- 2) Determine how much of APQ was reached due to contamination encounter thus far in the excavation work.
- 3) Track any remaining contamination as it is encountered and subtract it from the NOC's APQ. Keep a running total of the actual field encountered APQ to show that the NOC APQ will not be exceeded.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades (Project W-420)	AIR 99-115	1/29/1999	339

Conditions (state only enforceable)

- 1) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.

- 2) U.S. DOE shall comply with all Conditions and Limitations of this license.
- 3) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 4) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 5) The facility must maintain a log in an approved format for this activity or emission unit.
- 6) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 7) The radionuclides are limited to Sr-90 and Am-241:
For Excavation Activities: Sr-90, dose 2.76E-07 mrem/year to the MEI;
Am-241, dose 3.31E-03 mrem/yr to the MEI
For Equipment Removal Activities: Sr-90, dose 9.30E-11 mrem/year to the MEI;
Am-241, dose 5.56E-10 to the MEI
- 8) Radiological field surveys will be performed during replacement of the stack and associated sampling and monitoring equipment. HPT coverage will be provided during excavation with these activities stopping if evenly distributed (i.e., non-speck) contamination detection reading of 100,000 dpm/100cm² beta-gamma, or 35 dpm/100cm² above background alpha are encountered. If contamination levels in affected areas are greater than 1,000 dpm/100cm² beta gamma and 20 dpm/100cm² alpha, contamination controls including bagging and taping, applying fixatives, foaming, or glove bags will be used. A 20 mph sustained wind speed restriction shall apply to all demolition and replacement work. When ventilation is restored, between shutdown and completion of the upgrades, the stack emissions measurement system will be restored.
- 9) The abated emission limit is:
3.31E-03 mrem/yr to the MEI.
- 10) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 11) The annual possession quantity is limited to:
For Excavation Activities: Sr-90, 6.30E-03 Ci; Am-241, 2.52E-01 Ci
For Equipment Removal Activities: Sr, 4.48E-07 Ci; Am-241, 8.95E-09 Ci
- 12) All measured or calculated emissions must be reported annually.
- 13) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in WAC 246-247-075(6).
- 14) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 15) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 16) The required controls are: Wind speed construction of 20 mph, HPT coverage, engineering and controls
- 17) The facility's modification activity shall consist of replacing the stack and its associated sampling and monitoring equipment. Portions of existing concrete pads will be removed and the soil excavated to accommodate the installation of utilities (power, signal lines, etc.) The existing ventilation and stack sampling systems will remain operational during the excavation activities but will be shut down during stack and equipment removal and the relocation of the equipment cabinet to a temporary near-by location.
- 18) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use of maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 19) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.

- 20) The facility shall make requested documents available in a timely manner for review.
- 21) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 22) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.

200E P-244CR-001**296-C-5**

244-CR-VAULT

Emission Unit ID: 213

FFCA Status: Not in Compliance. Schedule for Upgrade by 4/30/2006. Federally enforceable only.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Fan		1	
HEPA		8	2 banks of 4 filters(2X2)
Prefilter		4	One bank of 4 prefilters (2X2)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 3 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades Resume Work Strategy (Project W-420)	RTAM	5/6/1999	365

Conditions (state only enforceable)

- 1) Use the APQ, in Curies, as the governing requirement for compliance with the NOC.
- 2) Determine how much of APQ was reached due to contamination encounter thus far in the excavation work.
- 3) Track any remaining contamination as it is encountered and subtract it from the NOC's APQ. Keep a running total of the actual field encountered APQ to show that the NOC APQ will not be exceeded.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades (Project W-420)	AIR 99-115	1/29/1999	339

Conditions (state only enforceable)

- 1) The annual possession quantity is limited to:
For Excavation Activities: Sr-90, 4.72E-03 Ci; Am-241, 1.89E-01 Ci
For Equipment Removal Activities: Sr, 2.36E-07 Ci; Am-241, 3.67E-08 Ci
- 2) The abated emission limit is: 2.48E-03 mrem/yr to the MEI.
- 3) U.S. DOE shall comply with all Conditions and Limitations of this license.

- 4) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 5) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 6) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 7) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 8) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 9) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 10) The radionuclides are limited to Sr-90 and Am-241:
For Excavation Activities: Sr-90, dose 2.07E-07 mrem/year to the MEI;
Am-241, dose 2.48E-03 mrem/yr to the MEI
For Equipment Removal Activities: Sr-90, dose 7.63E-10 mrem/year to the MEI;
Am-241, dose 3.55E-08 to the MEI
- 11) Radiological field surveys will be performed during replacement of the stack and associated sampling and monitoring equipment. HPT coverage will be provided during excavation with these activities stopping if evenly distributed (i.e., non-speck) contamination detection reading of 100,000 dpm/100cm² beta-gamma, or 35 dpm/100cm² above background alpha are encountered. If contamination levels in affected areas are greater than 1,000 dpm/100cm² beta gamma and 20 dpm/100cm² alpha, contamination controls including bagging and taping, applying fixatives, foaming, or glove bags will be used. A 20 mph sustained wind speed restriction shall apply to all demolition and replacement work. When ventilation is restored, between shutdown and completion of the upgrades, the stack emissions measurement system will be restored.
- 12) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 13) The facility must maintain a log in an approved format for this activity or emission unit.
- 14) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 15) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 16) The facility shall make requested documents available in a timely manner for review.
- 17) The facility's modification activity shall consist of replacing the stack and its associated sampling and monitoring equipment. Portions of existing concrete pads will be removed and the soil excavated to accommodate the installation of utilities (power, signal lines, etc.) The existing ventilation and stack sampling systems will remain operational during the excavation activities but will be shut down during stack and equipment removal and the relocation of the equipment cabinet to a temporary near-by location.
- 18) The required controls are: Wind speed construction of 20 mph, HPT coverage, engineering and controls

- 19) All measured or calculated emissions must be reported annually.
- 20) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 21) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in WAC 246-247-075(6).
- 22) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.

Project Title	Approval No.	Date Approved	NOC_ID
244-CR Vault Double-Contained Receiver Tank	AIR 94-913	9/15/1994	45

Conditions (state only enforceable)

- 1) Must maintain a negative pressure on the CR Vault while it is in use. When the CR vault is not in use, the cover blocks shall be taped.
- 2) Control System: The ventilation system shall consist of a pre-filter, two HEPA filters, a fan, and a stack.
- 3) Process Description: Start up and operation of an actively ventilated emissions abatement system shall be allowed during operation of the 244-CR Vault DCRT. The DCRT is used in the transfer of waste within the Tank Farms.
- 4) Monitoring will be performed continuously during the transfer of waste.

200E P-296B001-001**296-B-1**

B- PLANT

Emission Unit ID: 402

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]
	Fan	2	Only one fan operates at a time.
	HEPA	4	Two trains, 2 in each train
	Prefilter	2	Two trains, one in each train

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-075(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	137Cs, 90Sr	Continuous

This Emission Unit has 2 active Notice of Construction.**Project Title**

B Plant Modification of the Ventilation System (Emission Point: 296-B-1)

Approval No.

AIR 97-1012

Date Approved NOC_ID

10/28/1997 240

Conditions (state only enforceable)

- 1) The discharge from the new stack must be fully NESHAPS compliant and continuously monitored in accordance to the requirements of 40 CFR 61.93.

Project Title

B Plant Modification of the Ventilation System (Emission Point: 296-B-1)

Approval No.

AIR 97-805

Date Approved NOC_ID

8/20/1997 235

Conditions (state only enforceable)

- 1) The new 296-B Stack must comply with all National Emissions Standards for Hazardous Air Pollutants (NESHAPS) requirements. All equipment in the new ventilation system must meet the specifications outlined in Section 8.2 of the NOC. The sampling system is outlined in Section 9.4 - 9.4.4 of the NOC.

Note: Only the test requirements of 8.2 and the sampling requirements of section 9.4.4 are currently applicable. The requirements of the other sections were completed during construction. (2/27/2001)

- 2) The offsite abated emission must not exceed 4.52 E-02 millirem per year to the Maximally Exposed Individual. The isotopic breakdown is limited to those listed in Appendix A of the NOC.
- 3) The new HEPA filters must be fully compatible with ANSI 509/510 standards.

200E P-296B002-001**296-B-2**

B- PLANT

Emission Unit ID: 404

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]
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	HEPA	1	In series(passive ventilation)
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Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(2)	Alternative monitoring method approved is annually NDA testing on the second in-line HEPA filter.	All radionuclides which could contribute 10% of the potential EDE.	annually

This Emission Unit has 4 active Notice of Construction.**Project Title**

Modification of B-Plant complex, 221-B Canyon Building (Project W-059)

Approval No.

NOC Revision approval

Date Approved

9/5/2000

NOC_ID

494

Conditions (state only enforceable)

- 1) Change the frequency of NDA on the record filter from quarterly to annually.
- 2) Perform aerosol testing of the record filter annually.

Project Title

B Plant Modification of the Ventilation System, annual test for plugging

Approval No.

NOC revision approval

Date Approved

1/4/2000

NOC_ID

418

Conditions (state only enforceable)

- 1) If a valve is found to be leaking, the Department of Health must be notified prior to replacement to determine if a notice of construction is needed for the procedure.

Project Title

B Plant Modification of the Ventilation System (Emission Point: 296-B-1)

Approval No.

AIR 97-805

Date Approved

8/20/1997

NOC_ID

235

Conditions (state only enforceable)

- 1) The new HEPA filters must be fully compatible with ANSI 509/510 standards.
- 2) The passively ventilated 291-B retired filters in the HEPA vaults and sand filter must use the alternate method for collecting the record samples and HEPA maintenance outlined in Appendix C of the NOC. The alternate method

requires the quarterly nondestructive analysis of the second HEPA in series. The logs of these analyses are used to track emissions. The records must be available during DOH inspections. **Note: Quarterly NDA changed to annual by 9/5/2000 NOC revision approval. All the remainder of this condition is applicable.**

- 3) The offsite abated emission must not exceed 4.52 E-02 millirem per year to the Maximally Exposed Individual. The isotopic breakdown is limited to those listed in Appendix A of the NOC.
- 4) All other conditions listed in Section 8.3 - 8.5 of the NOC must be used to passively ventilate the retired filters and the 291-B stack after the old system will be shut down.

200E Canister Storage Bldg**CSB**

CANNISTER STORAGE BLDG (CSB)

Emission Unit ID: 435

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	2	operates in parallel, one fan at a time and one in backup mode
	HEPA	2	double stage, operates in parallel, one HEPA at a time and one in backup mode

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]		All radionuclides which could contribute 10% of the potential EDE.	The record filter is to be counted annually (either a destructive or non-destructive technique) using a gamma spectrometer calibrated to

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Canister Storage Building	AIR 98-710	7/30/1998	289

Conditions (state only enforceable)

- 1) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 2) Nothing may be inferred that is not specifically described in the NOC.
- 3) The department must approve any deviation from required or recommended monitoring standards.
- 4) Continuous monitoring must be in place prior to operating. This will include continuous ambient air sampling for this project.
- 5) All Conditions and Limitations must be proceduralized prior to the implementation of this NOC.
- 6) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from the facility (WAC 246-247-075(13) and (WAC 246-247-075(6)). The facility must demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 7) The process for validating the process parameters with respect to storing the MCOs in a sealed configuration is approved, however, the total number of representative samples was not given to us. By telephone, it was indicated that the total number of MCOs tested should not exceed twelve. Twelve is the limit, unless a more specific number

is negotiated with the department.

- 8) If there is an unexpected release of radioactivity, or if there is a shutdown, or any other condition that if it were allowed to persist, would result in emissions of radionuclides in excess of any Conditions or Limitations in the license, or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 1), BARCT (paragraph 2), or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval (paragraph 5).
- 9) The NOC constitutes a contract between the department and the facility. Any changes must be approved by the department
- 10) Ventilation systems used to control the release of particulate airborne radiological contamination from individual processes must include:
 1. MHM cask extract ventilation and HEPA exhaust system
 2. Sampling/weld station ventilation and HEPA exhaust system
 3. Overpack storage tube purge system
 4. Temporary containment enclosure with HEPA exhaust system for contamination control.
 5. The building HEPA filters are still required.
 6. All controls must be ANSI N509/510 compliant.
- 11) The emission limit for this emission unit is less than 1.58E-02 mrem/yr to the MEI abated (WAC 246-247-040(5)).
- 12) If construction is not commenced within two years from the date of this letter, the approval is void.
- 13) Preoperational tests planned for this unit, requirement for notification at least seven days prior to such testing under (WAC 246-247-060(4)) will apply.
- 14) All records required by WAC 246-247 must be readily (promptly) retrievable, and must be stored onsite at the facility. All records shall be maintained for a minimum of five years (WAC 246-247-080(8))
- 15) Any problems, which could affect the monitoring, ventilation or controls to this facility must be reported to the department.
- 16) The monitoring system must be ANSI N13.1 and ANSI N42.18 compliant.
- 17) Any deviation from the description of the modification or new construction, without approval of the department, may result in enforcement action under WAC 246-247-100. Cs-137.
- 18) The department reserves the right at any time to require the licensee to provide for split or collocated sampling of this emission unit (WAC 246-247-075(10)).
- 19) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emissions License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)).
- 20) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction and/or operation, the department will require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 21) The department reserves the right to conduct an environmental surveillance program around this emission unit and to require the facility to conduct or modify its own environmental monitoring program (WAC 246-247-075(9)).
- 22) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).

200E P-291A001-001**291-A-1**

PUREX

Emission Unit ID: 369

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	3	In parallel, one operating, two back-up
	HEPA	2	In series
	Glass Filter	1	(Deep Bed Glass filter)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	239/240Pu, 241Am	Continuous

200E P-296B010-001**296-B-10**

Waste Encapsulation and Storage Facility (WESF)

Emission Unit ID: 340

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
K-3 Filter Pit	Fan	1	2 parallel paths (1 in-use, 1 backup)
K-3 Filter Pit	HEPA	2	2 parallel flow paths, in-series
K-3 Filter Pit	Impingement Vanes	1	
K-3 Filter Pit	Heater	1	
K-3 Filter Pit	Demister	1	
K-1 Filter Bldg.	Fan	1	2 in parallel
K-1 Filter Bldg.	HEPA	2	In series
K-1 Filter Bldg.	Prefilter	2	In series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 2 active Notice of Construction.**Project Title**

Waste Encapsulation and Storage Facility - approval of alternative monitoring method

Approval No.

AIR 99-501

Date Approved NOC_ID

5/19/1999

369

Conditions (state only enforceable)

- 1) No WDOH conditions apply.

Project Title

Waste Encapsulation and Storage Facility (WESF) Liquid Low Level Radioactive Stream Piping Modification and Contingency Operations

Approval No.

RTAM

Date Approved NOC_ID

2/26/1998

259

Conditions (state only enforceable)

- 1) The following ALARACT Standards apply to this activity. WAC 246-247-130 Appendix C, "ALARA References"
- 2) The tank is considered a non-sealed, non-airtight source during the transport activity and the calculated PTE

includes all phases of this activity.

- 3) The contamination controls requirements for DOE/RL-96-75 will apply. This emission unit will be tracked using, as a guide, DOE/RL-96-75 and reported separate from those listed in DOE/RL-96-75
- 4) Levels on the outside of the tank transport packaging will be less than 2,000 dpm/100 cm² Alpha
- 5) Description of "mechanical plugs" will be provided to DOH for review and approval (via signed meeting minutes) prior to the activity.
- 6) DOH considers the temporary framed plastic enclosure with HEPA filtration is the primary control device for this activity. Glovebags used during cutting of the piping will be considered occupational safety controls.
- 7) Structural analysis of the tank integrity using the mass of the contents will be performed and provided to DOH for review and approval (via signed meeting minutes) prior to the tank lift.

200W P-244S-001**296-S-22**

244 S-DCRT

Emission Unit ID: 165

FFCA Status: Not in Compliance. Schedule for Upgrade by 4/30/2006. Federally enforceable only.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
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	Fan	1	
<hr/>			
* Technology Specific Requirements			
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	HEPA	2	2 parallel flow paths
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	Prefilter	1	2 parallel flow paths
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	Heater	1	Annulus exhaust is not heated
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Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 3 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades Resume Work Strategy (Project W-420)	RTAM	5/6/1999	365

Conditions (state only enforceable)

- 1) Use the APQ, in Curies, as the governing requirement for compliance with the NOC.
- 2) Determine how much of APQ was reached due to contamination encounter thus far in the excavation work.
- 3) Track any remaining contamination as it is encountered and subtract it from the NOC's APQ. Keep a running total of the actual field encountered APQ to show that the NOC APQ will not be exceeded.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades (Project W-420)	AIR 99-115	1/29/1999	339

Conditions (state only enforceable)

- 1) The annual possession quantity is limited to:
For Excavation Activities: Sr-90, 5.51E-03 Ci; Am-241, 2.21E-01 Ci
For Equipment Removal Activities: Sr, 4.59E-07 Ci; Am-241, 9.17E-09 Ci

- 2) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 3) The facility must maintain a log in an approved format for this activity or emission unit.
- 4) U.S. DOE shall comply with all Conditions and Limitations of this license.
- 5) The radionuclides are limited to Sr-90 and Am-241:
 For Excavation Activities: Sr-90, dose $2.41\text{E-}07$ mrem/year to the MEI;
 Am-241, dose $2.89\text{E-}03$ mrem/yr to the MEI
 For Equipment Removal Activities: Sr-90, dose $9.47\text{E-}11$ mrem/year to the MEI;
 Am-241, dose $35.66\text{E-}10$ to the MEI
- 6) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 7) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 8) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 9) The required controls are: Wind speed construction of 20 mph, HPT coverage, engineering and controls
- 10) Radiological field surveys will performed during replacement of the stack and associated sampling and monitoring equipment. HPT coverage will be provided during excavation with these activities stopping if evenly distributed (i.e., non-speck) contamination detection reading of 100,000 dpm/100cm² beta-gamma, or 35 dpm/100cm² above background alpha are encountered. If contamination levels in affected areas are greater than 1,000 dpm/100cm² beta gamma and 20 dpm/100cm² alpha, contamination controls including bagging and taping, applying fixatives, foaming, or glove bags will be used. A 20 mph sustained wind speed restriction shall apply to all demolition and replacement work. When ventilation is restored, between shutdown and completion of the upgrades, the stack emissions measurement system will be restored.
- 11) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 12) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 13) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in WAC 246-247-075(6).
- 14) The facility shall make requested documents available in a timely manner for review.
- 15) The facility's modification activity shall consist of replacing the stack and its associated sampling and monitoring equipment. Portions of existing concrete pads will be removed and the soil excavated to accommodate the installation of utilities (power, signal lines, etc.) The existing ventilation and stack sampling systems will remain operational during the excavation activities but will be shut down during stack and equipment removal and the relocation of the equipment cabinet to a temporary near-by location.
- 16) The abated emission limit is: $2.89\text{E-}3$ mrem/yr to the MEI.
- 17) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 18) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).

- 19) All measured or calculated emissions must be reported annually.
- 20) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 21) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 22) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.

Project Title	Approval No.	Date Approved	NOC_ID
S-Farm removal of duct work and associated exhausters	AIR 95-1004	10/12/1995	120

200W P-244TX-001**296-T-18**

244-TX-DCRT

Emission Unit ID: 166

FFCA Status: Not in Compliance. Schedule for Upgrade by 4/30/2006. Federally enforceable only.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]

* Technology Specific Requirements

Fan	1	
HEPA	2	3 parallel flow paths with 2 HEPAs in series
Prefilter	1	3 parallel flow paths
Heater	1	Annulus exhaust is not heated

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades Resume Work Strategy (Project W-420)	RTAM	5/6/1999	365

Conditions (state only enforceable)

- 1) Use the APQ, in Curies, as the governing requirement for compliance with the NOC.
- 2) Determine how much of APQ was reached due to contamination encounter thus far in the excavation work.
- 3) Track any remaining contamination as it is encountered and subtract it from the NOC's APQ. Keep a running total of the actual field encountered APQ to show that the NOC APQ will not be exceeded.

Project Title	Approval No.	Date Approved	NOC_ID
Stack Monitoring System Upgrades (Project W-420)	AIR 99-115	1/29/1999	339

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license.
- 2) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this

unit (WAC 246-247-075(13) and WAC 246-247-075(6)).

- 3) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 4) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use of a maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 5) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in WAC 246-247-075(6).
- 6) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 7) The facility must maintain a log in an approved format for this activity or emission unit.
- 8) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 9) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 10) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 11) The facility's modification activity shall consist of replacing the stack and its associated sampling and monitoring equipment. Portions of existing concrete pads will be removed and the soil excavated to accommodate the installation of utilities (power, signal lines, etc.) The existing ventilation and stack sampling systems will remain operational during the excavation activities but will be shut down during stack and equipment removal and the relocation of the equipment cabinet to a temporary near-by location.
- 12) The facility shall make requested documents available in a timely manner for review.
- 13) The annual possession quantity is limited to:
For Excavation Activities: Sr-90, 5.51E-03 Ci; Am-241, 2.21E-01 Ci
For Equipment Removal Activities: Sr, 4.59E-07 Ci; Am-241, 9.17E-09 Ci
- 14) All measured or calculated emissions must be reported annually.
- 15) The abated emission limit is: 2.89E-3 mrem/yr to the MEL.
- 16) The required controls are: Wind speed construction of 20 mph, HPT coverage, engineering and controls
- 17) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 18) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 19) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 20) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 21) Radiological field surveys will be performed during replacement of the stack and associated sampling and monitoring equipment. HPT coverage will be provided during excavation with these activities stopping if evenly distributed (i.e., non-speck) contamination detection reading of 100,000 dpm/100cm² beta-gamma, or 35 dpm/100cm² above background alpha are encountered. If contamination levels in affected areas are greater than 1.000 dpm/100cm²

beta gamma and 20 dpm/100cm² alpha, contamination controls including bagging and taping, applying fixatives, foaming, or glove bags will be used. A 20 mph sustained wind speed restriction shall apply to all demolition and replacement work. When ventilation is restored, between shutdown and completion of the upgrades, the stack emissions measurement system will be restored.

22) The radionuclides are limited to Sr-90 and Am-241:

For Excavation Activities: Sr-90, dose 2.41E-07 mrem/year to the MEI;

Am-241, dose 2.89E-03 mrem/yr to the MEI

For Equipment Removal Activities: Sr-90, dose 4.38-02 mrem/year to the MEI;

Am-241, dose 1.31E+01 to the MEI

200W P-244U-001**296-U-11**

244-U-DCRT

Emission Unit ID: 329

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

*** Technology Specific Requirements**

Fan	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
HEPA	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
Prefilter	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
Heater	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

200W P-291Z001-001**291-Z-1**

PLUTONIUM FINISHING PLANT(Z PLANT)

Emission Unit ID: 393

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
(all operations)	Fan	4	3 standby (7 total)
(242-Z Operations)	HEPA	2	2 Stages for process operations
236-Z Operations)	HEPA	2	2 Stages for process operations
(234-5Z Operations)	HEPA	2	2 Stages for process operations

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Alternative effluent flow rate not to exceed 290,000 cfm. Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 5 active Notice of Construction.**Project Title**

Magnesium Hydroxide Precipitation Process at PFP

Approval No.

AIR 00-801

Date Approved NOC_ID

8/25/2000

488

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this Notice of Construction (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) This approval, with its Conditions and Limitations must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 4) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation) the department reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emission control, monitoring or containment systems. The department reserves the right to

observe such tests (WAC 246-247-060(4)).

- 6) The department reserves the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 7) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 8) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above-cited regulation.
- 9) The department reserves the right to inspect and audit this unit during construction and operation. This includes all activities, equipment, operation procedures, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 10) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 11) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 12) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 13) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 14) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any Conditions or Limitations in the NOC or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 15) This unit must be fully accessible to Department of Health (DOH) inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 16) The facility shall make requested documents available for timely manner for review (WAC 246-247-080(10)).
- 17) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 18) The work approved in this NOC is limited to those described activities associated with the construction and operation activities involving the magnesium hydroxide precipitation process of plutonium solutions in nitric acid solutions within the Plutonium Finishing Plant (PFP).
- 19) Approved activities included in the process are the following: Stabilization by precipitation and use of the muffle furnaces; drying of the precipitated plutonium oxide (PuO₂); packaging of the dried PuO₂ for interim storage and disposal of the filtrate from the liquid nitrate solution using existing PFP processes.
- 20) The total unabated emissions are limited to 3.1E+01 Ci/yr.
- 21) The total unabated dose TEDE to the hypothetical MEI cannot exceed 2.20E+02 mrem/yr.
- 22) The total abated emissions are limited to 1.10E-01 mrem/yr.
- 23) The concentration of the nitric acid make up feed solution used in the magnesium hydroxide process cannot exceed 3.0 Molar.
- 24) The concentration of the nitric acid diluting solution used in the magnesium hydroxide process will average 0.35 Molar and be maintained within the safe operating parameters established for the process.
- 25) All operating Conditions and Limitations imposed by DOH in letter # AIR 96-1205 or stated in the Notice of Construction for the Muffle Furnaces must be observed.
- 26) Construction activities in Room 227 are limited to the installation of wall and ceiling mounts that will stabilize the

glovebox during seismic activities. Decontamination activities in Room 227 must be less than 0.1 mrem/yr.

* The HEPA filtered vacuums used for decontamination activities in Room 227 must be approved in the list included in the Radioactive Air Emissions Notice of Construction for HEPA Filtered Vacuum Radioactive Air Emissions Units DOE-RL-97-50. This document is to be used as a guide for the use of HEPA filtered vacuum, prior to the time the room is connected to the ventilation system. All records must be maintained as required in the HEPA Filtered Vacuum Radioactive Air Emissions Units (DOE-RL-97-50) NOC.

27) Construction activities in Room 230C are limited to the following:

- * Decontaminate and/or stabilize any contaminated areas as necessary.
- * Install two new gloveboxes to house the process equipment. These include precipitators, phase separator, polishing filters. Filtering tanks and hotplates.
- * Anchor the two new glove boxes to the floor.
- * Install wall and ceiling mounts, as necessary, to secure the gloveboxes in case of seismic activity.
- * Install drain lines from the new gloveboxes to a clean section of an existing drain line.
- * Connect the two new gloveboxes to the existing E-4 ventilation header.
- * Route feed returns and spare lines that originate in Room 227 to the new gloveboxes.
- * Install a new conveyor transport to connect to the new gloveboxes.
- * Cut a hole, with dimensions approximating a four-foot diameter semicircle, into the wall between Rooms 230C and 230B to allow access to a glovebox port.
- * Remove and relocate the electrical power conditioner.
- * Relocate the current safety shower and eye wash station.
- * Install a new electrical control panel.
- * Install a wash water tank and run lines to two new gloveboxes.

28) The maximum stack flow rate cannot exceed 137 cubic meters per second.

29) Testing of all HEPA filters described in the NOC will be performed annually.

30) The annual possession quantity for Plutonium (Pu) in nitric acid solutions cannot exceed 0.4 metric tons of Pu.

31) The air in rooms 227 and 230C will exhaust through the E-3 High - Efficiency Particulate Air (HEPA) ventilation system. The E-3 ventilation system contains one stage of HEPA filtration with a minimum efficiency of 99.95 percent for particles with a medium diameter of 0.3 microns, before connecting with the E-4 ventilation system and exhausting through the 291-Z-1 stack.

The process off gases in Rooms 227 and 230C used in the work associated with the MHPP will exhaust through the E-4 ventilation system. The E-4 ventilation system has two stages of HEPA filtration with a minimum efficiency of 99.95 percent for particles with a medium diameter of 0.3 microns. The E-4 ventilation system then passes through two additional stages of HEPA filtration, before connecting with the E-3 ventilation system and exhausting through the 291-Z-1 stack."

32) The monitoring system for the 291-Z-1 stack must remain compliant to all the NESHAPs requirements.

33) The muffle furnaces must connect into the E-4 ventilation system and be configured as described in the Muffle Furnace Notice of Construction (DOE/RL-96-79).

34) The maximum furnace temperature must not exceed approximately 1,000 degrees C for the thermal stabilization process.

35) All work on this project must be completed on or before October 1, 2010.

Project Title	Approval No.	Date Approved	NOC_ID
PFP (234-5-Z) Stabilization of Plutonium Metal Oxides in Muffle Furnaces at the Plutonium Finishing Plant	AIR 96-1205	12/18/1996	209

Project Title	Approval No.	Date Approved	NOC_ID
Vertical Calciner at Plutonium Finishing Plant	AIR 96-1105	11/8/1996	195

Conditions (state only enforceable)

- 1) Emission unit stack 291-Z-1 shall meet applicable NESHAP requirements.
- 2) The proposed action is a modification of the existing process within the PFP complex. It is proposed that a vertical calciner be constructed and installed in Room 230C of the 234-5Z Building and operated to stabilize the
- 3) The source term is based on approximately 4,800 liters plutonium and transuranic solution, which are stored in PFP and a total mass of 335 kg of plutonium and americium is assumed to be in this volume.

Project Title

Plutonium Finishing Plant Duct Work and Process Piping
Remediation

Approval No.

RTAM

Date Approved NOC_ID

7/9/1996

170

Conditions (state only enforceable)

- 1) WDOH approved the planned modifications of the ductwork, the additional 35 feet of removal and an additional 100 feet of removal with the stipulation that the added length would involve 2 kilograms or less of plutonium.

Project Title

Ductwork and Process Piping Remediation in Buildings 234-5Z &
291-Z (PFP)

Approval No.

Air 95-1102

Date Approved NOC_ID

11/7/1995

124

Conditions (state only enforceable)

- 1) Approved with the understanding that there shall be no changes to the existing control equipment & all remediation shall utilize a containment tent w/ HEPA filtration and/or glove bags.

200W P-296Z007 001**296-Z-7**

PLUTONIUM FINISHING PLANT(Z PLANT)

Emission Unit ID: 503

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]

All radionuclides which could contribute 10% of the potential EDE.

This Emission Unit has 1 active Notice of Construction.**Project Title**

Plutonium Finishing Plant W-460 "Plutonium Stabilization and Handling"

Approval No.

AIR 00-709

Date Approved NOC_ID

7/20/2000

450

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this Notice of Construction (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction before the specified activity is to begin. Copies of these procedures must be provided to the department before starting these activities.
- 3) This approval with its Conditions and Limitations must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 4) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction or during operation, the department reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The department reserves the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. The facility must make provisions for such testing during construction. The department intends to split occasional stack samples on 296-Z-7 (WAC 246-247-075(10)).
- 7) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).

- 8) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above-cited regulation.
- 9) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)). Periodic inspections will occur.
- 10) The department may require an ALARACT demonstration at any time (WAC 246-247-080 (1)).
- 11) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 12) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 13) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 14) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 15) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements, restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 16) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 17) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 18) The materials to be stabilized and or repackaged under Project W-460 are limited to the plutonium and uranium oxides and metals that are already are stored in Plutonium Finishing Plant (PFP) complex.
- 19) Activities approved under this NOC are those associated with the construction and operation of activities involving the stabilization and repackaging of plutonium in 2736-ZB Building and the construction of a new major exhaust stack to be built and operated in the 2736-ZB Building to handle the effluents associated with these processes.
- 20) If the design of the ventilation system differs from that submitted in this NOC or the activities described in this project change, the project must obtain additional approval from DOH prior to commencement of construction.
- 21) The only modification approved for the 2736-Z Building is the replacement of the current shelving for new larger units to store the new 3013 compliant cans. Only the new 3013 cans (considered sealed sources) are approved for long-term storage in the 2736-Z building. No modifications are to be made to the ventilation system that exhausts through the minor 296-Z-6 stack.
- 22) The new stack (296-Z-7) must be compliant to all the technology standards listed in WAC 246-247-110(18). This information must be made available to DOH upon request. Inspections will verify full compliance. If there are any deviations from these standards, prior approval must be obtained from the department.
- 23) The new stack (296-Z-7) must be compliant to all the requirements of ANSI N13.1 (1999). Prior to installation, the department must approve the specific design if it deviates from the design submitted in this NOC. All required technical specifications shall be documented as required in the ANSI N13.1 and submitted to DOH to be approved prior to operation of the stack.
- 24) The stack monitoring system shall consist of two shrouded probes located in the exhaust stream within the stack at an elevation of approximately 25 feet above grade. Each probe will have a sample line to deliver the sample stream to the stack monitoring equipment located at the base of the stack. One sample line will be connected to a continuous alpha monitor and the other line dedicated to the record air filter. The sample flow will be proportional to the stack flow. A stack mass flow sensor will be located near the shrouded probes. Inspection and test ports shall be provided. The design must include the ability for the department to split stack samples.

- 25) The alpha stack monitor shall have fail and high radiation alarms. These alarms are tied into an annunciator panel that will be used to notify operations of off normal conditions requiring immediate corrective actions. Sample from the stack stream. Exhausts from the pumps will return to the stack above the sample location.
- 26) Deposition losses in the sample lines must be evaluated. The results must be documented and issued in a report submitted to DOH after 12 months of operation.
- 27) Sampling for stack 296-Z-7 shall operate in a continuous mode.
- 28) Radioisotopes to be encountered during construction, stabilization and packaging activities include the following: uranium-235, uranium-238, plutonium-238, plutonium-239, plutonium-240, plutonium-241, plutonium-242, americium-241 and americium-243.
- 29) The unabated dose to the TEDE to the hypothetical MEI is 1.67 E+3 millirem/year.
- 30) The abated dose to the TEDE to the hypothetical MEI is 8.34 E-1 millirem/year (at the LIGO Facility).
- 31) The total annual possession quantities are limited to the following: total plutonium isotopes – 1.6 metric tons/year, total uranium isotopes – 1.1 tons/year, and total americium isotopes – 0.01 metric tons/year.
- 32) Soil excavation to support W-460 activities requires that a survey of the soil be performed every linear and vertical foot before and during excavation. Contaminated soil that is used as backfill must result in activity less than 50 cpm (counts per minutes) alpha or 500,000 cpm beta/gamma. These surveys must be recorded. These records must be made available to DOH upon request.
- 33) During soil excavation, if the contamination levels exceed 140 dpm alpha or 50,000 dpm beta/gamma, work must stop and DOH must be notified within twenty-four hours. DOH may request that an estimation of the dose due the excavation activities be calculated.
- 34) Contaminated soils must be separated from the piles of clean soil during excavation. The movement of contaminated soil will be controlled using fixatives, water and covers.
- 35) If contamination is more extensive than the prescribed limits, the spread of contamination must be controlled during the backfilling of soil. Minimal water shall be applied using a hand sprayer to control dust.
- 36) If contamination is present on the soil surface, the soil will either be removed and containerized, or covered with clean fill soil. After backfilling of the excavation site, where radiological contaminated soil is used as backfill, the surface soil will be surveyed to verify no contamination is on the soil surface.
- 37) The area will be radiologically posted both during and after completion of the project W-460, if appropriate.
- 38) The loss on ignition (LOI) purge gas flow rate will be 1 cfm of air. The offgas temperature will range from 1,150 degrees C to 1,200 degrees C. The offgas is discharged directly into the glovebox. There, it will mix with the approximately 13 degrees C nitrogen atmosphere in the LOI glovebox.
- 39) Supercritical fluid extraction (SEF) is also approved for the testing of oxide purity. The measured fluid stream of CO₂ and water are exhausted into the glovebox atmosphere.
- 40) The temperature of the offgas must be below 40 degrees C prior to passing through dual stage testable HEPA filters. After exiting the HEPA filters, the offgas exits through the new stack (296-Z-7). The temperatures of the offgas must be established during operation to insure they are not exceeded. The documentation of the temperature must be available to DOH upon request.
- 41) The dual stage of HEPA filters shall be able to be individually tested with minimum efficiency of 99.95%.
- 42) Procedures must be developed to leak test and to check for contamination on the outside of the welded containers prior to transporting them to various designated areas of the project. All staff must be trained on these procedures prior to the start of the project. DOH will review these procedures prior to the start of the project.
- 43) Activities in Room 642 are limited to material bag out, sample preparation, and heating of materials in the four muffle furnaces. The containers may only be opened in that area and ventilated through the 296-Z-7 stack.
- 44) The exhaust from the material bag out and preparation areas must each pass through a HEPA filter upon exiting the glove box. Prior to joining the main line, the exhaust must pass through a HEPA filter prior to connecting with the Room 642 exhaust filter and then to the dual stage HEPA filter and exiting through stack 296-Z-7. All HEPA filters must be tested.
- 45) The annual possession quantities for all construction activities associated with the 296-Z-5 stack are limited to 1.2 E-5 curies for all radionuclides combined. The 296-Z-5 stack must remain operational during all construction

- 46) The 2736-ZB building will exhaust out of the existing 296-Z-5 stack through two stages of individually testable HEPA filters. They will have a minimum efficiency of 99.95% for particulate with a median diameter of 0.3 microns.
- 47) The product fill glove box located in Room 642 must be exhausted through a HEPA filter before connecting to the Room 642 exhaust HEPA filter.
- 48) The maximum design life of this project is not to exceed 11 years. All work must be completed by October 1, 2010.
- 49) Gloveboxes must have two exhaust systems, including a normal and an emergency system. Inside of each glove box, the normal exhaust system must have a roughing filter and fire screen. Outside of the glovebox, the normal exhaust system must be connected to a testable high efficiency particulate air (HEPA) filter.
- 50) The Department of Health requires that a particle size distribution study be conducted for 296-Z-7 emission unit after 12 months of full operation.
- 51) The emergency exhaust line does not have any fire screens or filters. The normal and emergency lines are combined and routed to the process exhaust HEPA filter system. At this point the offgas temperature must be below 40 degrees C.
- 52) All differential pressure magnehelic gauges associated with 296-Z-5, 296-Z-7 and 296-Z-6 HEPA filters must be calibrated annually.
- 53) In these Conditions and Limitations, all filters designated as HEPA filters must be testable to a minimum of 99.95% efficiency.

200W P-WRAP1 001**296-W-4**

Waste Receiving and Processing Facility (WRAP)

Emission Unit ID: 193

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]
	Fan	4	
	Prefilter	1	Prefilter for each HEPA housing
	HEPA	2	Redundant systems in parallel consisting of two banks each
	HEPA	2	Redundant systems in parallel consisting of two banks each

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous, Collect samples biweekly at a minimum

This Emission Unit has 3 active Notice of Construction.**Project Title**

Waste Receiving and Processing (WRAP1)

Approval No.NOC revision
approval**Date Approved NOC_ID**

1/20/1999 338

Conditions (state only enforceable)

- 1) Collect airborne effluent samples biweekly at a minimum.

Project Title

Waste Receiving and Processing (WRAP1)

Approval No.

RTAM

Date Approved NOC_ID

7/9/1996 171

Conditions (state only enforceable)

- 1) This modification only changes the description of the permitted system, it does not change the PTE.
- 2) The filter media shall also be changed to a 200 mm glass fiber filter with a collection efficiency of 99% for 0.3 micron particles.
- 3) In order to maintain isokinetic sampling with the Berthold CAM, the 1 inch sample line shall be replaced with a 1.5 inch sample line (to enable a higher sample flow rate).

Project Title	Approval No.	Date Approved	NOC_ID
Waste Receiving and Processing (WRAP1)	AIR 93-907	9/7/1993	23

Conditions (state only enforceable)

- 1) Process Description: Waste treatment and repackaging facility. The primary function of WRAP1 is to examine, assay, characterize, treat, and repackage contact handled wastes.
- 2) Monitoring: Monitoring consists of record sampler.
- 3) WRAP exhaust stack shall be monitored for alpha and beta emitting particulates using an isokinetic probe.
- 4) Control System: prefilter and HEPAs.
- 5) There shall be a minimum of three stack sample points. The sample points shall be located at least 5 stack diameters down stream of any flow perturbations (such as a duct connection) and at least 2 stack diameters up stream of any flow disturbance (top of stack).
- 6) The number and placement of nozzles shall be consistent with ANSI N13.1.

300 EP-324-01-S**EP-324-01-S**

324 WASTE TECHNOLOGY

Emission Unit ID: 360

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Zone 1 Cells	Prefilter	2	1 for Zone 1 cell, 1 for POG V/V
Zone 1 Cells	HEPA	1	Last stage shared with B Cell
Zone 1 Cells	Fan	1	3 in parallel, Serves B Cell, Zone 1 Cells.
B Cell	Prefilter	2	
B Cell	Electro Static Precipitator	1	
Zone 2	Fan	1	2 in parallel. Serves both Storage Vault/Rms & Zone 2
Zone 2	Prefilter	1	
Zone 2	HEPA	1	Stage is control for Zone 2

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 1 active Notice of Construction.**Project Title**

Cleanout of B-Cell in the 324 Building

Approval No.

AIR 95-903

Date Approved NOC_ID

9/18/1995

113

Conditions (state only enforceable)

- 1) Main HEPA filters shall be surveilled daily for differential pressure readings and tested annually for efficiency.
- 2) Electrostatic Precipitators in B-Cell shall be surveilled daily for differential pressure readings and monitored for amperage.
- 3) A non-testable HEPA Filter for B-Cell, and A-Frame filters for B-Cell and HLV are required.

300 EP-325-01-S**EP-325-01-S**

325 APPLIED CHEMICAL LAB

Emission Unit ID: 361

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT (B)

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]
	Fan	3	4 in parallel (3 operational, 1 back-up)
	HEPA	2	2 in series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 Appendix A; Appendix B, Method 114	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 6 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Modification to the Tritium Target Qualification Program Radiochemical Processing Laboratory 325 Building, 300 Area	AIR 00-208	2/23/2000	430

Conditions (state only enforceable)

- 1) The approved process activities include the sectioning of eight Tritium Producing Burnable Absorber Rods (TPBAR) tritium extraction and analysis, and the extraction and permeation testing.
- 2) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 3) Tritium emissions are to remain below 1.8E+3 curies. This total includes 379 Ci (rods currently approved) + 1.42E+3 Ci (additional eight TPBARs) for a total of 1.8E+3 Ci.
- 4) The project will begin January 2000 and will extend for a period of two years extending through the year 2001.
- 5) The inventory of commercial H-3 may only increase from 1,000 Ci to 3,000 Ci.
- 6) The sampling system shall consist of an isokinetic sampling probe. The exhaust flow rate is to be a nominal rate of 61m3/sec. Emission shall be monitored for H3 using a 2-stage silica gel collector.
- 7) Equipment and procedures for continuous monitoring shall conform to ANSI N13.1. The specific design must be approved by the department prior to installation. The department prior to construction must approve any

deviation from ANSI N13.1 WAC 246-247-075(2).

- 8) The unabated emission level is limited to the MEI is 5.73 mrem/yr.
- 9) Molecular sieves may be used until the exhaust gas as measured with an ion chamber indicates the sieves approaching a breakthrough. Disposal of spent molecular sieves must be in compliance with Pacific Northwest's radioactive waste management procedure.
- 10) The abated emission level is limited to the MEI is 0.1 mrem/yr.
- 11) The annual possession quantity for the radionuclides for the eight TPBARs is enclosed.
- 12) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 13) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 14) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 15) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 16) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 17) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 18) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 19) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 20) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080 (8)).
- 21) The department reserves the right to inspect and audit this unit during operation. This includes all activities, equipment, operation procedures, documents, data, and other records related to compliance with the regulations (WAC 246-247-080 (1)).
- 22) Approval is given to analyze eight additional (TPBARs) containing approximately 88,000 Ci of tritium. The rods must decay a minimum of one year from the time of irradiation to the proposed examination.
- 23) Sectioning of the TPBAR rods must be performed in the hot cells in HLRF. Sectioning must be done inside Plexiglas containment.
- 24) Tritium extraction and analysis activities are limited to the hot cells in HLRF and to small-scale extractions in room 416.
- 25) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
- 26) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), ALARACT (paragraph 4), or any limitations included in this approval (paragraph 5) or the original Tritium Target Qualification Notice of Construction approval (letter # AIR 97-307).
- 27) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 28) The tritium permeation testing shall be conducted in room 48 of the basement in the laboratory hood or glovebox.
- 29) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 30) The "Mandatory Use Procedures" require that each step be read prior to performing the activity. These procedures

are those that involve the following:

* Operation of the furnace and gas clean-up system used to extract tritium from the Tritium Producing Burnable Absorber Rods and; * The transfer of the extracted tritium to hydride transport vessels.

- 31) The required emission control technology consists of mandatory use procedures, control valves, two molecular sieves, and two stages of testable HEPAs. In room 416, two stage bladder traps in series must be used. The uranium getter material must be uranium hydride.
- 32) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 33) Project activities are limited to High Level Radiochemical Facility (HLRF), Shielded Analytical Laboratory (SAL), and rooms 420, 418, and room 48 in the basement.

Project Title	Approval No.	Date Approved	NOC_ID
325 Building Hazardous Waste Treatment Unit (HWTU)	AIR 98-909	9/15/1998	302

Conditions (state only enforceable)

- 1) All Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction (NOC).
- 2) Hazardous materials and radioactive mixed wastes will be stored, dispensed used, handled, packaged in drums and treated, using various small bench-scale treatment processes in the HWTU/SAL.
- 3) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 4) Radioactive air emissions are limited to the concentrations listed in the NOC.
- 5) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).
- 6) All waste resulting from activities in the 325 Building treatment operations must be disposed of in accordance with prescribed PNNL Procedures.
- 7) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne release occurs (WAC 246-247-080(6)).
- 8) Monitoring of emission point EP-325-01-S will not change. Stack particulate emission samples will be analyzed for alpha and beta activity, and specific isotopes as required. Analytical methodology for stack samples shall comply with 40 CFR 61 Appendix B, Method 114. An isokinetic sampling probe mounted in the exhaust stack will be used to collect the particulate samples.
- 9) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by the Environmental Protection Agency (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet
- 10) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 11) The department retains the right to conduct its own stack sampling, environmental monitoring, or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 12) The waste compactor must remain HEPA filtered and exhausted through the main stack. It is only to be used for low-level dry materials, such as gloves, wipes, and step off pad waste as described in the NOC. Compacting usually occurs in the large compartment of the compactor. Take wipes of the small compactor drawer after each compactor cycle. A log of these wipes must be maintained and available for an inspectors review.
- 13) Approved waste treatment processes used in the HWTU/SAL include pH adjustment, ion exchange, carbon absorption, using polymer beads or mineral absorbents; such as clays, chemical oxidation, chemical precipitation, chemical reduction, waste concentration by evaporation, neutralization, filtration, solvent extraction, catalytic destruction, and grout encapsulation (cementation) as described in the NOC.

- 14) Activities of the Radiochemical Processing Analytical Chemistry and Environmental Management groups in the 325 Building are limited to those described in the NOC.
- 15) The department reserves the right to inspect and audit this unit during operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 16) Equipment and procedures for continuous monitoring shall conform to ANSI N13.1. The specific design must be approved by the department prior to installation. Any deviation from ANSI N13.1 must be approved by the department prior to construction (WAC 246-247-075(2)).
- 17) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 1), BARCT (paragraph 2) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5) (WAC 246-247-080(5)).
- 18) The additional 325 Building emissions must be as a result of waste treatment activities in the waste compactor in room 43, Hazardous Waste Treatment Unit (HWTU) in rooms 520 and 528, and the Shielded Analytical Laboratory (SAL) in rooms 200, 201, and 203 (Hot Cells) of the 325 Building as described in the NOC.
- 19) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 20) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 21) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.
- 22) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 23) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)).
- 24) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).

Project Title	Approval No.	Date Approved	NOC_ID
Modification to the annual possession quantity of the 325 Building Special Nuclear Materials Disposition and Low-Level Waste Vitrification Research Programs (Pu-238)	AIR 98-807	8/20/1998	294

Conditions (state only enforceable)

- 1) Potential-to-emit abated (total effective dose equivalent to the maximally exposed individual): 5.85 E-03 mrem/yr
- 2) All other Conditions and Limitations of NOC letter # AIR 96-604 will stay the same and be adhered to.

Project Title	Approval No.	Date Approved	NOC_ID
Transfer Strontium-90 from the 324 Building to the 325 Building	Shortform Approval	1/19/1998	253

Conditions (state only enforceable)

- 1) Two stages of testable HEPA filters are currently installed on the building exhaust stack (EP-325-01-S).
- 2) Abated dose is 4.69E-03 mrem/year
- 3) Unabated dose is 4.69E+01 mrem/year
- 4) Monitoring is continuous. The sampling system is designed and constructed in conformance with ANSI N 13.1(1969). Samples are analyzed for gross alpha and gross beta, and specific radionuclides, including 90Sr.
- 5) Storage at the 325 Bldg approved only; open canisters and processing will require a new NOC

Project Title	Approval No.	Date Approved	NOC_ID
Applied Chemistry, 325 Building LLW Vitrification Research Program	AIR 96-604	6/7/1996	159

Conditions (state only enforceable)

- 1) Control Technology: 2 - high efficiency particulate air filters (2 in series), 4 - fans(3 in parallel, 1 backup)
- 2) Potential-to-emit abated (total effective dose equivalent to the maximally exposed individual): 4.0 E-04 mrem/yr
- 3) Stack Measurement: Continuous measurement

Project Title	Approval No.	Date Approved	NOC_ID
Removal of 3rd Stage HEPA Filter, 325 Building	RTAM	11/14/1995	127

Conditions (state only enforceable)

- 1) Control Technology: 2 - high efficiency particulate air filters (2 in series), 4 fans (3 in parallel, 1 backup).

300 EP-327-01-S**EP-327-01-S**

327 BUILDING

Emission Unit ID: 407

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Remaining areas of Building 327	Fan	1	2 in parallel (machine shop is power ventilated with a single fan to the main flow path of the remaining areas of building 327.)
Remaining areas of Building 327	HEPA	1	Single stage
Rm. 15 Hood and Cells	Fan	1	2 in parallel, one standby. Serves Rm. 15 and Cells
Rm. 15 Hood and Cells	Prefilter	1	Cells only
Rm. 15 Hood and Cells	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

300 EP-331-01-V**EP-331-01-V**

331 LIFE SCI LAB

Emission Unit ID: 412

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Room 302	Fan	2	in parallel (fan common to glove box and hoods)
Rooms 101-107 fume hood/chambers	HEPA	1	
Rooms 101-107 glove boxes	HEPA	2	in series
3rd floor fume hood	HEPA	1	
Inhalation suite (glove boxes & fume hoods)	HEPA	2	in series
Room 302	HEPA	1	
Third Floor Change Rm	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-075(2)	Appendix B, Method 114(3)	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Life Sciences Laboratory I (Building 331) Modifications	AIR 98-108	1/21/1998	254

Conditions (state only enforceable)

- 1) Emission unit EP 331-01-V must use an isokinetic sampling probe with design specifications meeting ANSI N 13.1 (1969).

- 2) Stack emissions will be sampled for particulate matter containing alpha and beta activity using methods prescribed within Environmental Protection Agency Methods A-4 and B-4, and analyzed for gross alpha and gross beta activity, and specific radionuclides, as required.

Project Title

HEPA Filter Bank Removal in the 331 Building

Approval No.

RTAM

Date Approved NOC_ID

3/12/1996 143

300 P-340NTEX-001**340-NT-EX**

340 BUILDING

Emission Unit ID: 423

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Moisture separator	1	Serves the vessel off-gas portion of the treatment system
	Fan	2	In parallel, (only one fan operates at a time, one is a backup)
	HEPA	2	In series. 3 parallel flow paths, (Minimum of 2 active flow paths providing 1 stage prefiltration and 2 stages HEPA filtration)
	Prefilter	1	3 parallel flow paths, (Minimum of 2 active flow paths providing 1 stage prefiltration and 2 stages HEPA filtration)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
340-A Building Tank Sludge Cleanout	AIR 97-604	6/19/1997	228

Conditions (state only enforceable)

- 1) Only one tank solids removal campaign shall be performed during any annual period, which consists of the removal of all sludge in the subject tanks.
- 2) The ventilation system consists of 3 parallel flow paths. A minimum of two active flow paths is required each path shall include a minimum of one prefilter, two HEPA filters in series, and two exhaust fans (one of which will be a backup fan)
- 3) The total abated offsite dose from the 340-A Building Tank Sludge Cleanout activities shall not exceed 3.05E-07 mrem/year.

300 EP-3720-01-S**EP-3720-01-S**

3720 BUILDING

Emission Unit ID: 419

FFCA Status: In Compliance.**Abatement Technology (state only enforceable)**

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	2	1 operational, 1 backup
	HEPA	2	2 stages of HEPAs, two in parallel

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4) & WAC 246-247-75(2)	Method 2 appendix A Method 114 appendix B 61.93(b)(2)(ii) ANSI N13.1	All radionuclides which could contribute 10% of the potential EDE.	Continuous

Table 1.2 Requirements for minor point sources**100K 100KR-1706KE-001****1706KE**

1706-KE Lab

Emission Unit ID: 168

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Intermittent operation
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]	TOTAL ALPHA TOTAL BETA		4 week sample/year
Sampling Requirements Record Sample	[WAC 246-247-075(5), WAC 173-401-615(1)]:		

200 W-PORTEX 005**200 Area Interim Storage Area (ISA)**

200 diffuse/fugitive emissions

Emission Unit ID: 454

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93(b)(4)(i) &
WAC 246-247-075(3)

Annual

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Smear Survey

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
200 Area Interim Storage Area (ISA)	AIR 98-503	5/20/1998	272

Conditions (state only enforceable)

- 1) The NOC constitutes a contract between the department and the facility. Any changes must be approved by the department.
- 2) The department reserves the right at any time to require the licensee to provide for split or collocated sampling of this emission unit (WAC 246-247-075(10)).
- 3) All conditions and limitations must be proceduralized prior to the implementation of this NOC.
- 4) Any deviation from the description of the modification of new construction, without approval of the department, may result in enforcement action under WAC 246-247-100.
- 5) Any deviation from required or recommended monitoring standards must be approved by the department.
- 6) The department reserves the right to conduct an environmental surveillance program around this emission unit and to require the facility to conduct or modify its own environmental monitoring program (WAC 246-247-075(9)).
- 7) This project must be included in the next revision of the Air Operating Permit, if active at that time (WAC 246-247-060(1)(e)).
- 8) There are no preoperational tests planned for this unit, so the requirement for notification at least seven days prior to such testing under WAC 246-247-060(4) will not apply.

200 W-PORTEX 028
241-TX-154 Diversion Box

All Plants
 Emission Unit ID: 492

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Tank Farm 241-TX-154 Diversion Box	AIR 99-1011	10/29/1999	408

Conditions (state only enforceable)

- 1) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 2) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 3) The facility must be able to demonstrate that workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 4) Periodic confirmatory emission monitoring shall be verified using the following two methods: (1) Non destructive analysis to be performed at the end of the calendar year, and log is to be maintained with a record of the exhausters's activities for the pit work. This log shall include information as to location, start and stop time and date, total of hours of operation with purpose specified. Additionally, the ductwork, seams and potential release locations on the portable exhausters shall be smeared at the end of each day to demonstrate that no contamination is escaping. The results of this shall be entered as part of the exhausters's record log.

In the event that the exhausters is used on different emission units, the Department of Health reserves the right to request an nondestructive analysis/assay (NDA) after each exhausters job assignment (WAC 246-247-075(3)).

- 5) The department retains the right to conduct its own stack sampling, environmental monitoring, or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 6) The facility shall notify the department at least seven days prior to any planned preoperational testing of the

emission unit's emission control, monitoring, or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).

- 7) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 8) This approval, with its conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 9) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 10) (Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).

- 11) The required controls are as follows:

Abatement Control Technology:

1. The portable exhauster providing active ventilation within the bullpen shall consist of a pre-filter, one HEPA filter, and a blower that draws air through the filters and pushes air out an exhaust port.

As Low As Reasonably Achievable Control Technology:

1. Radiation control technicians shall inspect and approve required containment.
2. Pit work shall shut down (or not initiated) when sustained wind speeds exceed 25 miles per hour or are predicted to do so by Hanford Meteorological Station personnel for the period of planned work.
3. The opening of the bullpen shall not exceed an area one-third the size of a fully opened roof.
4. Affected transfer lines shall be flushed with cover blocks in place.
5. Jumpers or other instrumentation/equipment removed from the pit shall be drained of free liquid and decontaminated or contained before removal. The outer-most surface shall not exceed 1,000 disintegrations per minute/100 square centimeters beta/gamma and 20 disintegrations per minute/100 square centimeters beta/gamma and 20 disintegrations per minute/100 square centimeters alpha before removal from the bullpen.
6. Only blocks necessary to perform intended work shall be removed. At the end of the work shift, the cover blocks shall be re-installed unless waste in the pit is contained in transfer lines or other pit equipment.
7. Active ventilation of the bullpen shall be used after removal of the cover blocks and during work activities to minimize radiological releases. Air inflow shall be achieved by using a 1,000 cubic feet per minute exhauster.
8. The inlet and outlet of the ventilation system will be sealed with plastic when the ventilation system is not in operation.

- 12) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 13) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 14) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in this NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 15) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 16) (All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 17) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval (paragraph 5).
- 18) When this project is completed, via a report of closure, or operations cease, the facility shall notify the department, including whether or not any potential for airborne release occur (WAC 246-247-080(6)).
- 19) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the

inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance to have reasonable time to meet the requirements.

- 20) The approved process is limited to that listed below as documented in the NOC. No other processes are approved. Department inspectors will verify this condition.

Removal and/or installation of cover blocks:

Inspections:

Installation, disconnection, changing, leak testing, and cutting up jumpers/blanks or other pit equipment:

Repairing/replacing valves, jumpers, pumps, leak detectors, or other instrumentation/equipment:

Decontamination activities:

Applying fixative with cover blocks on or off:

Cleaning drains and checking the flow of drains:

Unplug transfer lines:

- 21) The radionuclides and annual possession quantities are limited to those stated in the following table.
- 22) To assure the intent of the ALARACT standard is sustained, and the adequacy of the design for the control technology equipment is maintained, continuous personnel coverage shall be employed while this equipment is in
- 23) This NOC is valid until July 14, 2004.
- 24) The total annual possession quantity is limited to $3.21\text{E}+03$ curies.
- 25) The abated dose limit for this NOC shall not exceed $1.53\text{E}-02$ mrem/yr to the MEI.

200 W-PORTEX 032
244-CR-VAULT activities

All Plants
Emission Unit ID: 497

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
244-CR Vault work activities	AIR 00-206	2/15/2000	424

Conditions (state only enforceable)

- 1) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitutes a revision of the Radioactive Air Emissions License.
- 2) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080 (1)).
- 3) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 4) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 5) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 6) When this project is completed, or operations cease, the facility shall notify the department and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).

- 7) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080 (8)).
- 8) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 9) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 10) The facility must maintain a log in an approved format for this activity or emission unit (WAC 246-247-080(7)).
- 11) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 12) The required controls are as described: Pre-job and post-job radiation surveys by radiation protection technicians, radiation work permits, pit work is shut down or not initiated if wind speeds exceed 25mph, fixatives could be applied inside the pit with cover blocks on or off or accessible portions of the pit decontaminated to less than 100,000 dpm beta/gamma and 2000 dpm for alpha, when cover blocks are removed a handrail for fall protection is installed. The handrail must be draped in plastic forming a contamination barrier; affected transfer lines could be flushed with cover blocks in place with water before removing jumpers. Radiation control technicians monitor the affected work area while jumpers are being removed from nozzles. Additional controls will be used for any pit activity that has a potential for exposing additional waste to the pit environment, which would otherwise remain contained in transfer lines or their pit equipment. Primary activities, which would require these additional controls include jumper change outs, valve and nozzle replacements and cutting up contaminated equipment. The additional controls are: an open top bullpen designed to minimize the top opening, if the bullpen is to be left unattended at any time a temporary cover is placed over the pit or the cover blocks will be reinstalled. Active ventilation of the bullpen will be used after removal of the cover blocks during work activities to minimize radiological releases. Air inflow will be achieved by using a 1,000 cfm exhaustor.
- 13) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 14) The abated dose limit for this NOC shall not exceed 5.7E-2 mrem/yr. to the MEI.
- 15) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 16) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 17) Periodic confirmatory samples consisting of contamination surveys during pit activities will be taken. Air samples will be taken at all times the bullpen is occupied and the exhaustor is operating. Pre-job and post-job surveys will also be performed to verify containment.

In the event that the exhaustor is used on different emission units, the Department of Health reserves the right to request a nondestructive analysis / assay (NDA) after each exhaustor job assignment (WAC 246-247-075(3)).

- 18) This NOC approval includes the following activities which might be performed in the diversion box of the 244-CR-Vault; remove or install cover blocks, perform inspections, install, disconnect, change, and cut up jumpers/blanks or other pit equipment, repair/replace valves, jumpers, pumps, filters, leak detectors, or other instrumentation/equipment. Perform decontamination activities, apply fixative with cover blocks on or off, clear drains and check flow of drains, unplug transfer lines. Miscellaneous activities that will not increase emissions above the sum of a conservative concentration of particulate radionuclides potentially airborne due to the splashing of drain back to the pit plus the radionuclides partitioned from the remaining 10 gallons of liquid and solid waste after 490 gallons drains to the vault. The partitioning fraction used for the splashing of drain back is 8.0 E-05. This value is to be used to account for the fact that the drain back height into the vault will occur from less than three meters. A release fraction of 1.0E-03 was used for the 10 gallons of liquid remaining in the vault.
- 19) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction or during operation, it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 20) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of

Construction.

- 21) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 22) This NOC is valid through fiscal year 2005.
- 23) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 24) The possession quantity is limited 7.45E+3 curies.

200 P-276S141 001**Hexone Tanks**

All Plants

Emission Unit ID: 482

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

HEPA

HEPA filtration

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)			During characterization activities

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Existing near-facility monitoring stations.

200 W-PORTEX 011**Permacon Unit**

All Plants

Emission Unit ID: 461

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) WAC 246-247-075(3)			Quarterly frequency revisited after a year for changes to annual.

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Quarterly for 2 weeks of operations

This Emission Unit has 1 active Notice of Construction.

Project Title

Modular Containment (PermaCon) for Sampling Activities at the Central Waste Complex

Approval No.

RTAM

Date Approved NOC_ID

8/18/1998

292

Conditions (state only enforceable)

- 1) Emissions shall be vented through a 2,000 cfm or less testable HEPA filter exhauster.
- 2) A fixed head sampler, located inside the PermaCon near the exhaust stack, shall be used at least quarterly for a minimum of two weeks of operations to obtain samples of the airspace within the PermaCon unit during operation.

200 W-PORTEX-023**Portable Exhauster**

All Plants

Emission Unit ID: 479

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Intermittent operation
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)	Appendix B, Method 114(3)	GROSS ALPHA/BETA	One week per quarter during operation

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Collect air samples on particulate air filters

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
219-S Waste Handling Facility Secondary Containment Upgrade (Project W-178)	NOC revision approval	1/20/1999	336

Conditions (state only enforceable)

- 1) The control equipment shall include an enclosure with an (intermittently operated) exhauster with HEPA filtration.
- 2) Periodic confirmatory measurement shall include sample collection on particulate air filters for a period of one week per quarter. Sample collection shall be performed during exhauster operation and analyzed for gross alpha/beta activity.

200 W-PORTEX 026**Portable Exhauster on Pit 244-TX DCRT**

All Plants

Emission Unit ID: 490

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Tank Farm Waste Transfer Pit 244-TX Double Contained Receiver Tank (DCRT). Corrects Letter AIR 99-805	AIR 99-1002	10/6/1999	403

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitutes a revision of the Radiation Air Emissions License.
- 4) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 5) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 6) The required controls are as follows:

Abatement control technology:

The portable exhauster providing active ventilation within the bullpen shall consist of a pre-filter, one HEPA filter, and a blower that draws air through the filters and pushes air out an exhaust port.

Alaract:

Radiation control technicians shall inspect and approve required containment. Pit work shall be shut down (or not be initiated) when sustained wind speeds exceed 25 miles per hour or are predicted to do so by Hanford Meteorological Station personnel for the period of planned pit work. The opening of an open top bullpen shall not exceed an area one-third the size of a fully opened roof.

Affected transfer lines shall be flushed with cover blocks in place.

Jumpers or other instrumentation/equipment removed from the pit shall be drained of free liquid and decontaminated or contained before removal. The outer-most surface shall not exceed 1,000 disintegrations per minute/100 square centimeters beta/gamma and 20 disintegrations per minute/100 square centimeters alpha before removal from the bullpen.

Only blocks necessary to perform intended work shall be removed. At the end of the work shift, the cover blocks shall be re-installed unless waste in the pit is contained in transfer lines or other pit equipment.

Active ventilation of the bullpen shall be used after removal of the cover blocks and during work activities to minimize radiological releases. Air inflow shall be achieved by using a 1,000 cubic feet per minute exhaustor. The inlet and outlet of the ventilation system will be sealed with plastic when the ventilation system is not in operation.

- 7) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 8) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 9) The abated dose limit for approved pit activities shall not exceed 0.0236 mrem/yr to the MEI.
- 10) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 11) The approved process for pit activities are limited to those listed below. No other processes are approved. Department inspectors will verify this condition.

Removal and/or installation of cover blocks:

Inspections:

Installation, disconnection, changing, leak testing, and cutting up jumpers/banks or other pit equipment:

Repairing/replacing valves, jumpers, pumps, leak detectors, or other instrumentation/Equipment:

Decontamination activities:

Applying fixative with cover blocks on or off:

Clearing drains and checking the flow of drains:

Unplug Transfer Lines:

- 12) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080 (1)).
- 13) The radionuclides and annual possession quantities are limited to those stated in the following table:
SUMMARY OF OVERALL EMISSIONS FOR 244-TX PIT WORK contained in the NOC
- 14) Periodic confirmatory emission monitoring shall be verified using the following two methods. (1) Non destructive analysis to be performed at the end of the calendar year, and log is to be maintained with a record of the exhaustor's activities for the pit work. This log shall include information as to location, start and stop time and date, total of hours of operation with purpose specified. Additionally, the ductwork, seams and potential release locations on the portable exhaustor shall be smeared at the end of each day to demonstrate that no contamination is escaping. The results of this shall be entered as part of the exhaustor's record log.

In the event that the exhaustor is used on different emission units, the Department of Health reserves the right to request a nondestructive analysis / assay (NDA) after each exhaustor job assignment (WAC 246-247-075(3)).

- 15) This NOC is valid until July 14, 2004.
- 16) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction or during operation. The department reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 17) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 18) To assure the intent of the ALARACT standard is sustained, and the adequacy of the design for the control technology equipment is maintained, continuous personnel coverage shall be employed while this equipment is in
- 19) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 20) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 21) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 22) When this project is completed, or operations cease, the facility shall notify the department and indicate whether or not any potential for airborne release occur (WAC 246-247-080(6)).
- 23) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080 (8)).
- 24) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).

200 W-PORTEX 029**Tank Farm 241-S-151 Diversion Box**

All Plants

Emission Unit ID: 493

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Tank Farm 241-S-151 Diversion Box	AIR 99-1010	10/28/1999	407

Conditions (state only enforceable)

- 1) The department retains the right to conduct its own stack sampling, environmental monitoring, or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 2) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 3) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 4) The radionuclides and annual possession quantities are limited to those stated in the following table.
- 5) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 6) This approval, with its conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 7) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in this NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 8) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emission control, monitoring, or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 9) Periodic confirmatory emission monitoring shall be verified using the following two methods: (1) Non destructive analysis to be performed at the end of the calendar year, and log is to be maintained with a record of the exhausters's activities for the pit work. This log shall include information as to location, start and stop time and date, total of hours of operation with purpose specified. Additionally, the ductwork, seams and potential release locations on the portable exhausters shall be smeared at the end of each day to demonstrate that no contamination is escaping. The

results of this shall be entered as part of the exhausters's record log. In the event that the exhausters is used on different emission units, the Department of Health reserves the right to request a nondestructive analysis/assay (NDA) after each exhausters job assignment (WAC 246-247-075(3)).

- 10) The facility must be able to demonstrate that workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 11) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 12) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 13) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance to have reasonable time to meet the requirements.
- 14) To assure the intent of the ALARACT standard is sustained, and the adequacy of the design for the control technology equipment is maintained, continuous personnel coverage shall be employed while this equipment is in
- 15) When this project is completed, via a report of closure, or operations cease, the facility shall notify the department, including whether or not any potential for airborne release occur (WAC 246-247-080(6)).
- 16) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 17) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 18) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 19) The approved process is limited to that listed below as documented in the NOC. No other processes are approved. Department inspectors will verify this condition.
Removal and/or installation of cover blocks:
Inspections:
Installation, disconnection, changing, leak testing, and cutting up jumpers/blanks or other pit equipment:
Repairing/replacing valves, jumpers, pumps, leak detectors, or other instrumentation/equipment:
Decontamination activities:
Applying fixative with cover blocks on or off:
Cleaning drains and checking the flow of drains:
Unplug transfer lines:
- 20) The required controls are as follows:
Abatement Control Technology:
1. The portable exhausters providing active ventilation within the bullpen shall consist of a pre-filter, one HEPA filter, and a blower that draws air through the filters and pushes air out an exhaust port.

As Low As Reasonably Achievable Control Technology:

1. Radiation control technicians shall inspect and approve required containment.
2. Pit work shall shut down (or not initiated) when sustained wind speeds exceed 25 miles per hour or are predicted to do so by Hanford Meteorological Station personnel for the period of planned work.
3. The opening of the bullpen shall not exceed an area one-third the size of a fully opened roof.
4. Affected transfer lines shall be flushed with cover blocks in place.
5. Jumpers or other instrumentation/equipment removed from the pit shall be drained of free liquid and decontaminated or contained before removal. The outer-most surface shall not exceed 1,000 disintegrations per

minute/100 square centimeters beta/gamma and 20 disintegrations per minute/100 square centimeters beta/gamma and 20 disintegrations per minute/100 square centimeters alpha before removal from the bullpen.

6. Only blocks necessary to perform intended work shall be removed. At the end of the work shift, the cover blocks shall be re-installed unless waste in the pit is contained in transfer lines or other pit equipment.

7. Active ventilation of the bullpen shall be used after removal of the cover blocks and during work activities to minimize radiological releases. Air inflow shall be achieved by using a 1,000 cubic feet per minute exhaustor.

8. The inlet and outlet of the ventilation system will be sealed with plastic when the ventilation system is not in operation.

- 21) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval (paragraph 5).
- 22) The total annual possession quantity is limited to 3.21E+03 curies.
- 23) (13) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 24) The abated dose limit for this NOC shall not exceed 1.53E-02 mrem/yr to the MEI.
- 25) (24) This NOC is valid until July 14, 2004.

200E P-204AR-001**296-A-26**

204 AR Building

Emission Unit ID: 96

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	De-entrainer	1	
	Fan	1	
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

200E P-296P031-001**296-P-31**

209 E CRITICALITY LAB

Emission Unit ID: 210

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Parallel paths merge and pass through fan
	HEPA	8	2 banks of 4 HEPAs each
	Prefilter	4	1 bank

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]	TOTAL ALPHA TOTAL BETA	TOTAL ALPHA TOTAL BETA	4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

200E P-296AN-001**296-A-29**

241-AN TANK FARM

Emission Unit ID: 227

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths, 1 in operation at a
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Prefilter	1	2 parallel flow paths
	Heater	1	2 parallel flow paths
	De-entrainer	1	2 parallel flow paths

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Installation and Operation of a Waste Retrieval System in Tanks 241-AN-101,102,103, 104, 105, and 107.	AIR 00-701	7/9/2000	449

Conditions (state only enforceable)

- 1) All Conditions and Limitations must be proceduralized prior to the implementation of this Notice of Construction (NOC).
- 2) This approval to commence construction is valid for only two years from the date of approval. If construction is not commenced within two years of approval, the approval is void.
- 3) Any deviation from the description of the modification or new construction, without approval of the department, may result in enforcement action under WAC 246-247-100.
- 4) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-(6)). The emission data, including periodic confirmatory monitoring, must be reported in the Hanford Site Annual Air Emission Report.
- 5) No radionuclides other than those listed in the NOC may be emitted in any detectable concentrations (WAC 246-247-110(10)(11)(12)).
- 6) The department reserves the right at any time to require the licensee to provide for split or co-located sampling of

this project (WAC 246-247-075(10)).

- 7) The department reserves the right to conduct an environmental surveillance program around this emission unit and to require the facility to conduct or modify its own environmental monitoring program (WAC 246-247-075(9)).
- 8) The facility shall notify the department at least seven days prior to any pre-operational testing (cold or hot) of the monitoring or containment system involved in this project. The department reserves the right to observe any such testing (WAC 246-247-060(4)). Notification may be by phone, electronic mail or written correspondence.
- 9) This project must be included in the next revision of the Air Operating Permit if active at the time (WAC 246-247-060(1)(e)).
- 10) The NOC constitutes a contract between the department and the facility. Any changes must be approved by the department.
- 11) Any deviation from required or recommended monitoring standards must be approved by the department. The NOC makes a commitment on what standards (required or recommended) will be followed. At that point, the commitment is binding.
- 12) All records required by WAC 246-247 must be retrievable within 24 hours of the request, and must be stored onsite. All records shall be maintained for a minimum of five years (WAC 246-247-080(8)).
- 13) An ALARACT demonstration may be required at any time by the department (WAC 246-247-130).
- 14) Nothing may be inferred that is not specifically described in this NOC (WAC 246-247-060 and 110).
- 15) When this project is completed, and ceases to be an emission unit, a report of closure must be filled with the department (WAC 246-247-080(6)).
- 16) The project shall be fully accessible to department inspectors (WAC 246-247-080(9)).
- 17) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards are included in WAC 246-247-040, unit specific emission limits, offsite dose standard, ALARACT or BARCT whichever is applicable, or any limitations included in this approval.
- 18) The unabated curies will not exceed the values for the radionuclides listed below:
Unabated curies for pipe cuts:
3H, 2.72E-04; 14C, 3.81E-05; 59Ni, 2.21E-06; 60Co, 1.46E-04; 63Ni, 2.20E-04; 79Se, 4.22E-06; 90Sr, 1.07E-01; 90Y, 1.07E-01; 93mNb, 1.49E-05; 93Zr, 2.04E-05; 99Tc, 2.25E-04; 106Ru, 1.08E-08; 113mCd, 1.09E-04; 125Sb, 2.56E-04; 126Sn, 6.39E-06; 129I, 2.12E-06; 134Cs, 4.01E-05; 137Cs, 4.47E-01; 151Sm, 1.49E-02; 152Eu, 7.84E-06; 154Eu, 5.83E-04; 155Eu, 9.11E-04; 226Ra, 1.76E-07; 227Ac, 1.09E-09; 228Ra, 3.95E-04; 229Th, 9.13E-09; 231Pa, 4.80E-09; 232Th, 4.47E-08; 232U, 1.22E-06; 233U, 4.66E-06; 234U, 1.06E-06; 235U, 4.16E-08; 236U, 5.49E-08; 237Np, 5.97E-06; 238Pu, 2.43E-06; 238U, 1.26E-06; 239Pu, 1.75E-06; 240Pu, 3.56E-07; 241Am, 7.03E-04; 241Pu, 2.04E-04; 242Cm, 1.90E-07; 242Pu, 9.57E-10; 243Am, 3.62E-09; 243Cm, 9.34E-07; 244Cm, 2.97E-06.

Unabated Curies for Pit Work/Equipment Installation and Removal:

3H, 2.31E-04; 14C, 3.24E-05; 59Ni, 1.88E-06; 60Co, 1.24E-04; 63Ni, 1.87E-04; 79Se, 3.59E-06; 90Sr, 9.08E-02; 90Y, 9.08E-02; 93mNb, 1.27E-05; 93Zr, 1.74E-05; 99Tc, 1.92E-04; 106Ru, 9.17E-09; 113mCd, 9.26E-05; 125Sb, 2.18E-04; 126Sn, 5.44E-06; 129I, 1.80E-06; 134Cs, 3.41E-05; 137Cs, 3.80E-01; 151Sm, 1.26E-02; 152Eu, 6.67E-06; 154Eu, 4.96E-04; 155Eu, 7.75E-04; 226Ra, 1.50E-07; 227Ac, 9.26E-10; 228Ra, 3.36E-04; 229Th, 7.77E-09; 231Pa, 4.08E-09; 232Th, 3.80E-08; 232U, 1.04E-06; 233U, 3.96E-06; 234U, 9.01E-07; 235U, 3.54E-08; 236U, 4.67E-08; 237Np, 5.08E-06; 238Pu, 2.06E-06; 238U, 1.07E-06; 239Pu, 1.49E-06; 240Pu, 3.03E-07; 241Am, 5.98E-04; 241Pu, 1.74E-04; 242Cm, 1.62E-07; 242Pu, 8.14E-10; 243Am, 3.08E-09; 243Cm, 7.95E-07; 244Cm, 2.52E-06.

Unabated Curies for Soil Extraction (Guzzler):

90Sr, 1.01E-01; 90Y, 1.01E-01 and 241Am, 4.42 E-03.

Unabated Curies for Soil Extraction (Hand Digging):

90Sr, 2.55E-02; 90Y, 2.55E-02 and 241Am, 1.02 E-03.

- 19) The TEDE to the MEI from soil excavation by the Guzzler will not exceed 6.96E-02 mrem/year, and will be performed in accordance with the regulated Guzzler approval identified in (98-EAP-037). The APQ shall not exceed 1.15E-01 curies. The annual dose to the MEI and the APQ will be tracked on a WDOH approved log. Periodic confirmatory monitoring for soil excavation will consist of soil contamination surveys.
- 20) The TEDE to the MEI from pit work including equipment installation and removal will not exceed the calculated annual dose of 2.85E-02 mrem/year. The pit work will be performed in accordance with TWRS ALARACT Demonstration for Pit Access (6) and TWRS ALARACT Demonstration for Pit Work (14). When contamination levels inside the pit exceed those identified in the ALARACT Demonstrations a notification shall be made to the WDOH, identifying the additional controls to be added in accordance with the containment matrix guide from HNF-IP-0842. The APQ shall not exceed 5.77E+02 curies. The annual dose to the MEI and the APQ will be tracked on a WDOH approved log.
- 21) When a Portable/Temporary Radioactive Air Emission Unit (DOE/RL-96-75), or a HEPA Filtered Vacuum (DOE/RL-97-50) are used all Conditions and Limitations associated with those NOCs must be followed, all required logs must be maintained and emissions reported in the annual air emission report.
- 22) Total soil excavated during the project will not exceed 6,000 cubic yards, which includes approximately 3,600 cubic yards inside the tank farm.
- 23) Pipe cuts will be made with a sawzall/tri-tool or equivalent tool. If removable contamination levels are greater than 10,000 dpm/100 cm² beta-gamma and 200 dpm/100 cm² alpha, the cuts and welding preparation must be performed inside a glovebag.
- 24) Work in glovebags will not be performed if sustained wind speeds are greater than 30 miles per hour. This criterion applies to sustained wind speed as determined by the Hanford Meteorological Station
- 25) Removal of in-tank equipment will be performed in accordance with ALARACT Demonstration 13, TWRS ALARACT Demonstration for Installation, Operation, and Removal of Tank Equipment, and ALARACT 12 TWRS ALARACT Demonstration for Packaging and Transportation of Equipment and Vehicles.
- 26) To confirm low emissions during equipment removal and installation periodic confirmatory monitoring will be as outlined in ALARACT 13, in addition, periodic confirmatory monitoring for the Flexible Receiver Bagging Process will consist of taking a smear survey of the cut bag. Documentation of the survey will be maintained in a WDOH approved log.
- 27) Monitoring of diffuse and fugitive emissions from this activity will be accomplished through the use of Ambient Near Field Monitors N984, N972, N999 and N158.
- 28) The HEPA filter on the endcap of the Long Length Contaminated Equipment Disposal System shall be installed and maintained in accordance with manufactures recommendations.
- 29) Periodic confirmatory monitoring for use of the regulated guzzler, portable/temporary radioactive air emissions unit or a HEPA filtered vacuum will be as required by the approved NOC for that equipment.
- 30) Periodic confirmatory monitoring for the 296-A-29 stack will consist of collecting a two-week sample four times a year, and will be representative of operation of the waste retrieval system. In addition, to ensure the potential-to-emit from these proposed activities remain less than 0.1 mrem/year, a non-destructive analysis (NDA) of the 296-A-29 HEPA filters will be performed annually during waste retrieval system operation. A baseline NDA will be performed prior to operation of the waste retrieval system.
- 31) The annual abated emissions from the 296-A-29 to the MEI, from mixer pump operations shall be 2.06E-5
- 32) The TEDE to the MEI from transfer pipe cuts will not exceed 3.34E-02 mrem/year. The annual possession quantity (APQ) shall not exceed 6.79E+02 curies. The annual dose to the MEI and APQ will be tracked on a WDOH approved log.
- 33) The TEDE to the MEI from soil excavation by hand digging will not exceed the calculated annual dose of 1.61E-02 mrem/year, and will be performed in accordance with ALARACT 5TWRS ALARACT Demonstration for Soil Excavation (using hand tools). The APQ shall not exceed 2.65+01 curies. The annual dose to the MEI and the APQ will be tracked on a WDOH approved log.

Project Title

Installation of a small mixer pump to support routine pH adjustment in Tank 107-AN.

Approval No.

RTAM

Date Approved NOC_ID

6/8/1994

38

Conditions (state only enforceable)

- 1) All mixing must be in-tank.
- 2) There shall be no measurable increase in air emissions downstream of the abatement system.
- 3) The pump must be <75 hp.
- 4) Installation of a small mixer pump to support routine pH adjustment. No impact on air emissions. Mixing with pump not considered routine.
- 5) The waste surface must remain quiescent during mixer pump action.
- 6) Increased PTE makes it a modification, but not a significant one.

200E P-296A030-001**296-A-30**

241-AN TANK FARM

Emission Unit ID: 228

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	HEPA	4	1 stack ventilates 2 mirror trains of abatement systems
	Fan	2	1 in each train(one in operation at a time)
	Heater	2	1 in each train
	De-entrainer	2	1 in each train

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200E P-296P041-001**296-P-41 (inactive)**

241-AN TANK FARM

Emission Unit ID: 95

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	2	2 in series
	Prefilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200E P-296AP-001**296-A-40**

241-AP TANK FARM
Emission Unit ID: 204

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths, 1 in operation at a
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Prefilter	1	2 parallel flow paths
	Heater	1	2 parallel flow paths
	De-entrainer	1	2 parallel flow paths

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Installation and operation of Waste Retrieval System in Tanks 241-AP-102 and 241-AP-104	AIR 00-106	1/24/2000	421

Conditions (state only enforceable)

- 1) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(6)).
- 2) All pit work must be performed in accordance with TWRS ALARACT Demonstrations 6 and 14 for Pit Access and, ALARACT Demonstrations for Pit Work.
- 3) If the wind speeds exceed 30 miles per hour the work in the glove bags will stop. If sustained wind speed exceeds 25 miles per hour pit work must stop. Records of wind speeds reading must be kept and made available to DOH, if requested.
- 4) If smeared surface shows removable contamination levels are equal to or greater than 10,000-dpm/100cm² beta gamma and 200 dpm/100cm² alpha it must be cut and prepared for welding inside of a glove bag. Expandable foam and fixatives may be used to fix contamination.
- 5) All construction approved in this NOC must be completed by 2011.

- 6) Glove bags will be removed before all welds.
- 7) An expandable plug must be placed when the riser is opened in order to maintain constant vapor space and material from falling into the tank.
- 8) Soil excavation is limited to approximately 1,000 cubic yards total of which 600 cubic yards inside the tank farm backfill must be made with original soil or addition of controlled density fill composed of sand, water, and a small amount of cement. Cuts to transfer line must be done in a glove bag.
- 9) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.
- 10) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 11) Equipment removed from the tank is not to be decontaminated in the tank farm. If decontamination is needed it must be performed inside a decontamination tent.
- 12) Soil excavation emission controls during construction activities must be based on TWRS ALARACT Demonstration 5 for soil excavation (using hand tools), and must follow the radiological controls specified in that ALARACT.
- 13) Use of equipment and containers for removal, cleaning, decontamination, transport, storage and burial of in-tank components and soil are approved.
- 14) TEDE to the Maximally Exposed Individual (MEI) unabated dose from all construction activities is 0.042 millirem per year. The abated offsite dose from mixer pump operation is 2.17 E-05 millirem per year.
- 15) Sample collection flow rate shall be approximately 120±12 cubic feet per hour.
- 16) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 17) Periodic confirmatory measurements for the AP Tank Farms existing 296-A-40 stack shall consist of a two-week sample collected four times a year.
- 18) The use of the regulated Guzzler, Portable/Temporary Radioactive Air Emission Unit and HEPA filtered vacuum radioactive emissions units may be used as needed as prescribed by DOH in their NOC approval.
- 19) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
- 20) In tank emission controls for the installation and removal of equipment activities must be based on TWRS ALARACT Demonstration 13 for installation, Operation and Removal of Tank Equipment, and must follow the radiological controls specified in that ALARACT.
- 21) Flexible bagging process of equipment shall be performed as outlined in the NOC. All equipment shall be double bagged. Disposal Long Length Contained Equipment (LLCE) Disposal System waste packaging process is used after the equipment is bagged. A vent penetration is made at the top of the end cap to the container. The vent must be fitted with or piped to a high-efficiency particulate air filter (HEPA).
- 22) Performance of miscellaneous activities on support of construction and operation activities will not increase emissions above those estimated in this NOC.
- 23) The following equipment is approved to be removed for AP-102: mixer pump, transfer pump, and drop-leg jumper.
- 24) Approval is given to remove jumpers: the central pump pit cover blocks and pump pit cover blocks of these pits.
- 25) The work approved is limited to the installation and operation of Waste Retrieval System Tanks 241-AP-102 and 241-AP-104. It includes removal of existing equipment, installation of new equipment and construction of an annex to the 241-AP-71 instrument building and construction of a new pump pit in the AP Tank Farm
- 26) All HEPAs must be individually tested annually (per ASME 510) to a minimum efficiency of 99.95% for the removal of particulate with a median diameter of 0.3 microns.
- 27) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, procedures, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 28) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that

last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), ALARACT (paragraph 4) or BARCT (paragraph 3), whichever is applicable, or any limitations included in this approval (paragraph 5).

- 29) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 30) These conditions and limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 31) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 245-247-040 during construction (as described in this NOC, or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060-(2)(d)).
- 32) Removals of about 32 feet of existing eight inch diameter annulus ventilation piping.
- 33) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 34) Installation of jumpers inside existing AP02A, AP02D, and new AP04A, AP04D, and new pit covers In the AP tank farm pits.
- 35) The following equipment is approved to be removed for AP- 104: transfer pump, a slurry distributor, and relocation of a drip tube assembly to a different riser (AP04D).
- 36) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 37) Removal of approximately 15 linear feet of existing two-inch waste line.
- 38) Construction of a Caustic Supply Dilution System to be constructed outside of the AP tank farm fence as described in the NOC. The Caustic Supply Dilution System must be isolated to prevent any backflow or radioactive material of the caustic feed tank. This system will not handle radioactive waste outside the tank farm.
- 39) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use an maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 40) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 41) Installation of double contained waste transfer piping and diluent piping to and from the process pits and installation of approximately 32 feet of eight-inch diameter annulus ventilation piping. These 1,400 linear feet of piping will be installed about five feet underground.
- 42) The new equipment to be installed is to include: a 300-horse power motor, spray wash system on each riser, one decant/transfer pump and one closed circuit television system in each tank.
- 43) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 44) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitute a revision of the Radioactive Air Emissions License.

200E P-296A041-001**296-A-41**

241-AP TANK FARM

Emission Unit ID: 205

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths, minimum of 1 in operation at a time; annulus exhauster
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Heater	1	2 parallel flow paths with 1 heater

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]	TOTAL ALPHA TOTAL BETA		4 week sample/ year
Sampling Requirements Record Sample	[WAC 246-247-075(5), WAC 173-401-615(1)]:		

200E P-296AW-001**296-A-27**

241-AW TANK FARM

Emission Unit ID: 150

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths, 1 in operation at a
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Prefilter	1	2 parallel flow paths
	Heater	1	2 parallel flow paths
	De-entrainer	1	2 parallel flow paths

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200E P-296A028-001**296-A-28**

241-AW TANK FARM

Emission Unit ID: 156

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Heater	2	1 for each train
	De-entrainer	2	1 for each train
	Fan	2	1 for each train
	HEPA	4	In series (1 stack ventilates 2 mirror trains of abatement systems)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200E P-296A018-001**296-A-18**

241-AZ/AZ TANK FARM

Emission Unit ID: 217

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Heater	1	
	Fan	1	Annulus exhaustor AY 101, intermittent operations.
	HEPA	2	In series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

200E P-296A019-001**296-A-19**

241-AZ TANK FARM

Emission Unit ID: 218

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Heater	1	
	Fan	1	Annulus exhauster
	HEPA	2	In series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200E P-296A020-001**296-A-20**

241-AZ TANK FARM

Emission Unit ID: 174

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
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	Fan	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
<hr/>			
	HEPA	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
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Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

200E P-296A043-001**296-A-43**

241-AY/AZ TANK FARM

Emission Unit ID: 216

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths; only 1 flow path normally operates at a time; either fan can be used with either filter train.
	HEPA	1	2 parallel flow paths; only 1 flow path normally operates at a time
	Prefilter	1	2 parallel flow paths; only 1 flow path normally operates at a time

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)	Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year
Sampling Requirements Record Sample	[WAC 246-247-075(5), WAC 173-401-615(1)]:		

200E W-PORTEX 022**241-ER-152 Pit**

241-ER

Emission Unit ID: 477

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

NDA after each job; or maintain operating logs once per year if not used on different jobs

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Tank Farm Waste Transfer Pits 241-ER-152 and 244-A Lift Station	AIR 99-204	2/12/1999	340

Conditions (state only enforceable)

- 1) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 2) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.
- 3) The emission limits for each pit may not cause an offsite dose to exceed 2.45E-02 mrem/yr to the MEI.
- 4) If flushing pressure is expected to exceed 50 psig, the department must be notified and assured that proper hoses, couplings and fittings are appropriate for the pressure used. Between 50 and 120 psig, only a notification is required. Anything above 120 psig requires approval from the department.
- 5) The annual possession quantity is limited to 3.92E+03 curies per pit.
- 6) The approved process is limited to that described in the NOC and as clarified in the faxed response to department questions and comments dated February 10, 1999. No other processes are approved. Department inspectors will verify this condition.
- 7) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 8) The required controls are approved as clarified in the February 10, 1999 faxed response to department questions and

comments. The pit must not be left unattended when the pit is open, without some cover (as described in the response to question 11 in the department's comments),

- 9) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 10) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 11) The facility must maintain a log in an approved format for this activity or emission unit if the latter monitoring method is used (WAC 246-247-080(7)).
- 12) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 13) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(6)).
- 14) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 15) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 16) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 17) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems (if conducted). The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 18) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).
- 19) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval
- 20) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 21) All commitments made in the clarification fax of February 10, 1999 are required.
- 22) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 23) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 24) Periodic confirmatory sampling is required. It must consist of non-destructive analysis (NDA) after each work package. An acceptable alternative is the maintenance of logs and NDA once a year, unless the exhauster is used on another emission unit during that year. In the event the exhauster is used on different emission units, an NDA will be required after each job (WAC 246-247-075(3)).
- 25) This NOC is valid until January 1, 2005, when it expires (only for the activities described in this NOC and the clarification fax of February 10, 1999).
- 26) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 246-247-040 during construction, as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance (WAC 246-247-060-(2)(d)).

200E P-242A-001**296-A-21**

242-A Evaporator

Emission Unit ID: 141

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths (Minimum 1 parallel path in operation)
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Prefilter	1	2 parallel flow paths with 1 prefilter

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

200E P-242A-002**296-A-22**

242-A Evaporator

Emission Unit ID: 142

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Fan operates during 242-A processing.
	HEPA	2	In series
	Heater	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)	During campaigns: Method 2 appendix A Method appendix B 61.93(b)(2)(ii) ANSI N13.1: During non-campaigns Appendix B, Method 114(3)	Total ALPHA, TOTAL BETA, 137Cs, 90Sr, 239Pu, 238Pu, 241Am	Non-campaign: 4 weeks per year Campaign: one sample in the quarter prior to each campaign; one during each campaign; one sample during the quarter following the campaign.

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample; Continuous monitoring during campaigns.

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Revision to AIR 98-704	AIR 98-808	8/24/1998	296

Conditions (state only enforceable)

- 1) Monitoring for I-129 needs to occur only when this isotope exceeds 10% of the PTE.
- 2) Sampling for total alpha, total beta, Cs-137, Sr-90, Pu-239, Pu-238, I-129, Am-241 and any other specific radionuclides contributing to 10% of the potential-to-emit for each campaign.

Project Title	Approval No.	Date Approved	NOC_ID
Downgrade of 296-A-22 Evaporator emission unit from a NESHP stack to a non-designated stack	AIR 98-704	7/9/1998	284

Conditions (state only enforceable)

- 1) Periodic confirmatory monitoring requirements during years with campaigns include:

A minimum of one sample in a quarter prior to each campaign

A minimum of one sample during the campaign runs

A minimum of one sample during the quarter proceeding the campaign runs

- 2) Periodic confirmatory monitoring requirements during years with no campaigns include:

A total of four weeks of sampling data for each non-operating year.

Analysis for total alpha, total beta, and Cs-137

- 3) The monitoring system must be NESHAPs compliant and operating in compliance with NESHAPs and WAC 246-247 designated stack requirements when it is operating.

200E P-244AR-002**296-A-13**

244-AR SLUDGE VAULT

Emission Unit ID: 211

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	Non-Operational
	HEPA	Non-Operational
	Prefilter	Non-Operational
	Heater	Non-Operational
	Prefilter	Non-Operational

(This unit is inactive and will require an NOC to resume operation or a report of closure to deregister this emission unit).

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)	Appendix B, Method 114(3)	This unit is nonoperational and will require an NOC to operate or report of closure to deregister	This unit is passively ventilated.

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200E P-2025E ETF**296-E-1**

Effluent Treatment Facility(ETF)

Emission Unit ID: 301

Abatement Technology (state only enforceable)

Applicable Requirements:BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
Building Ventilation System	Fan	2	Serves both areas
Building Ventilation System	HEPA	2	3 parallel flowpaths each with 1 filter and 1 fan; minimum 2 in operation.
Vessel Off-Gas System	Fan	1	
Vessel Off-Gas System	HEPA	3	1 heater and 2 filters in series, with 2 parallel fans (minimum of 1 in operations). VOG discharges into Building Ventilation

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Monitoring stations N498, N499, N972, and N999

This Emission Unit has 2 active Notice of Construction.**Project Title**

200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF)
(Emission Point: 296-E-1)

Approval No.

NOC revision
approval

Date Approved NOC_ID

1/19/1999 331

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated 1/14/97 (RTAM) are applicable. There are no new WDOH conditions that apply to this NOC.

Project Title

200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF)
(Emission Point: 296-E-1)

Approval No.

RTAM

Date Approved NOC_ID

1/14/1997 211

Conditions (state only enforceable)

- 1) Monitoring: The ETF exhaust is monitored by periodic confirmatory samples on a quarterly basis using monitoring stations N498, N499, N972, and N999.
- 2) ETF Load in station and LERF = $2.50 \text{ E-02 mrem/yr}$ to the MEI.
- 3) ETF abated emissions: 1.25 E-5 mrem/yr .
- 4) Emissions from the ETF load in station and the LERF are diffuse and fugitive emissions (i.e., not a point source) which will be measured by Near Facility Environmental Monitoring.
- 5) The 200 area ETF was designed and constructed to be a flexible wastewater treatment facility, and to provide the Hanford Site with the capability to treat waste waters generated during cleanup

200E P-242AL42-001**LERF Basin #42**

Liquid Effluent Retention Facility (LERF)

Emission Unit ID: 148

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Charcoal filter		1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) WAC 246-247-075(3)	TOTAL ALPHA BETA	TOTAL BETA	Air- every 2 weeks continuous deposition annually

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Environment Sampling; Monitoring stations N498, N499, N972, and N999

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF) (Emission Point: 296-E-1)	NOC revision approval	1/19/1999	331

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated 1/14/97 (RTAM) are applicable. There are no new WDOH conditions that apply to this NOC.

Project Title	Approval No.	Date Approved	NOC_ID
200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF) (Emission Point: 296-E-1)	RTAM	1/14/1997	211

Conditions (state only enforceable)

- (2) Monitoring: The ETF exhaust is monitored by periodic confirmatory samples on a quarterly basis.
- (1) The 200 area ETF was designed and constructed to be a flexible wastewater treatment facility, and to provide the Hanford Site with the capability to treat waste waters generated during cleanup
- (4) ETF abated emissions: 1.25 E-5 mrem/yr.
- (3) Emissions from the ETF load in station and the LERF are diffuse and fugitive emissions (i.e., not a point source) which will be measured by Near Facility Environmental Monitoring.
- (5) ETF Load in station and LERF = 2.50 E-02 mrem/yr to the MEI.

200E P-242AL43-001**LERF Basin #43**

Liquid Effluent Retention Facility (LERF)
Emission Unit ID: 147

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Charcoal filter		1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) WAC 246-247-075(3)	TOTAL ALPHA BETA	TOTAL ALPHA BETA	Air- every 2 weeks continuous deposition annually

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Environment Sampling; Monitoring stations N498, N499, N972, and N999

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF) (Emission Point: 296-E-1)	NOC revision approval	1/19/1999	331

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated 1/14/97 (RTAM) are applicable. There are no new WDOH conditions that apply to this NOC.

Project Title	Approval No.	Date Approved	NOC_ID
200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF) (Emission Point: 296-E-1)	RTAM	1/14/1997	211

Conditions (state only enforceable)

- (1) The 200 area ETF was designed and constructed to be a flexible wastewater treatment facility, and to provide the Hanford Site with the capability to treat waste waters generated during cleanup
- (2) Monitoring: The ETF exhaust is monitored by periodic confirmatory samples on a quarterly basis.
- (3) Emissions from the ETF load in station and the LERF are diffuse and fugitive emissions (i.e., not a point source) which will be measured by Near Facility Environmental Monitoring.
- (4) ETF abated emissions: 1.25 E-5 mrem/yr.
- (5) ETF Load in station and LERF = 2.50 E-02 mrem/yr to the MEI.

200E P-242AL44-001**LERF Basin #44**

Liquid Effluent Retention Facility (LERF)
Emission Unit ID: 146

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Charcoal filter		1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) WAC 246-247-075(3)	TOTAL ALPHA BETA	TOTAL ALPHA BETA	Air- every 2 weeks continuous deposition annually

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Environment Sampling; Monitoring stations N498, N499, N972, and N999

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF) (Emission Point: 296-E-1)	NOC revision approval	1/19/1999	331

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated 1/14/97 (RTAM) are applicable. There are no new WDOH conditions that apply to this NOC.

Project Title	Approval No.	Date Approved	NOC_ID
200 Area Effluent Treatment Facility (ETF) and Load-In Station, and Liquid Effluent Retention Facility (LERF) (Emission Point: 296-E-1)	RTAM	1/14/1997	211

Conditions (state only enforceable)

- (1) The 200 area ETF was designed and constructed to be a flexible wastewater treatment facility, and to provide the Hanford Site with the capability to treat waste waters generated during cleanup
- (2) Monitoring: The ETF exhaust is monitored by periodic confirmatory samples on a quarterly basis.
- (3) Emissions from the ETF load in station and the LERF are diffuse and fugitive emissions (i.e., not a point source) which will be measured by Near Facility Environmental Monitoring.
- (4) ETF abated emissions: 1.25 E-5 mrem/yr.
- (5) ETF Load in station and LERF = 2.50 E-02 mrem/yr to the MEI.

200E P-296A010-001**296-A-10**

PUREX

Emission Unit ID: 384

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Inactive
	HEPA	1	1 bank

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
	Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	1 week sample / year (when operating)

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Reactivation of PUREX Storage Tunnel Number 2.	AIR 99-1205	12/20/1999	417

Conditions (state only enforceable)

- 1) All transfers of additional radioactive materials from various onsite facilities to the PUREX Tunnel must take place during the period in fiscal years 2000 through 2010.
- 2) The rail car may remain in the rail cut, with appropriate postings, or could be moved just inside the exterior door into the outer area of the PUREX Tunnel while waiting the next transfer. Only two SWDBs are allowed on a single rail car. The rail cars must not have any dispersible contamination on them. If they do, they must be stored inside the tunnel doors and cannot be held outside.
- 3) If the stack is opened for any three-month period between transfers an NDA analysis of the filters is required. Environmental air samplers N158, N985, N970, N957, N969, N977 and N978 may not be removed without DOH approval.
- 4) Up to 3.5 million curies of radioactive waste can be placed into the remaining 12 rail car positions of the PUREX Tunnel over the next 10 years. Up to 1 percent (35 thousand curies) of the additional waste can be transuranic.
- 5) Stack 296-A-10 HEPAs must be tested and determined to be operational prior to transfer of waste. This includes testing and nondestructive analysis/assay (NDA) of the testing of the high-efficiency particulate air (HEPA) filters on the tunnel exhauster as a baseline for determination of filter loading after the placement was completed.
- 6) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).

- 7) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 8) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.
 - 9) The total unabated dose due to emissions from the 296-A-10 stack (including current inventory, placement of rail cars into the PUREX Tunnel, and proposed increase in inventory) cannot exceed $7.8E-04$ mrem per year to the MEI.
 - 10) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
 - 11) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
 - 12) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
 - 13) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
 - 14) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
 - 15) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
 - 16) The total abated dose limit is $3.9E-07$ mrem per year to the MEI.
 - 17) Periodically smears will be taken of the SWDBs during transfer operations prior to insertion into the tunnel. Records of smears, HEPA tests and NDA analysis must be made available to DOH upon request.
 - 18) This unit must be fully accessible to Department of Health inspectors. Inspectors must be able to verify that the stack is operational or capped and sealed when the tunnel is shut down. Access must be given to the department for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
 - 19) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5) (WAC 246-247-080(5)).
 - 20) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
 - 21) Each SWDB container must be equipped with a minimum of two NucFil® filters in series. If the container has dispersible material, it must have three NucFil® filters. A maximum of twelve rail cars containing waste may be added to the tunnel.
 - 22) Periodic confirmatory measurements to confirm low emissions from the 296-A-10 stack will be performed by NDA. NDA provides detection of cesium-137 loaded on HEPA filters. The loading of strontium-90, plutonium-239/240 and americium-241 on the HEPA filters will be calculated from

ratios with cesium-137 from reported 1995 actual emissions. NDA methodology for the 296-A-10 stack is provided in 97-EAP-225.

- 23) The stack will operate during waste placement. Depending on the length of time before the next transfer, the stack should be shutdown and capped between transfers, especially if the next transfer is not expected for a year or more. If the next transfer is expected within the same year, the stack can be operated between transfers. Testing of the HEPA filters will be performed annually. NDA would be required each year when a rail car is placed in the tunnel, or when the stack is uncapped and used for powered ventilation. During years in which no waste is placed in the PUREX Tunnel and the 296-A-10 stack is capped (weather tight), testing of the HEPAs and NDA analysis would not be required until the stack is reactivated for the next transfer.
- 24) The required average stack flow rate is 2.0 cubic meters per second. The stack must have a single stage of HEPA filters (3x3) with a particulate removal efficiency of at least 99.95 percent.
- 25) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 26) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction or during operation, the department reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 27) The sampling system will be upgraded to include the installation of test ports that will conform to 40 CFR 60, Appendix A
- 28) All containers must meet transportation requirements to be moved by truck to the PUREX Tunnel rail cut. A mobile crane will be used to transfer the SWDB from the truck to the rail car. The impact liner and overpack must be free of loose contamination before it can be reused for subsequent transfers.
- 29) The processes will consist of receiving up to 3.5 million curries of radioactive waste loaded into 22-ton steel waste disposal boxes (SWDBs). The SWDBs will be transferred by truck, transferred onto rail cars, and placed into the PUREX Tunnel.
- 30) The steel waste disposal boxes (SWDBs) are engineered to minimize emissions during the loading, transportation, and transfer processes. Only waste received in SWDBs will be placed in the PUREX Tunnel. Dispersible waste must be contained in engineered containers placed (maximum of eight) in the rectangular grout container. Nondispersible waste (e.g., filters, ion exchange columns, cut-up metal tanks and racks, etc.) must be held directly inside the rectangular grout container. Alternate packaging for receipt/storage, must provide equivalent or greater degree of airborne control, and be approved by WDOH before use.
- 31) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)). Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8))
- 32) If the tunnel is opened for more than three months between transfers an NDA of the filters is required.

200W P-296S016-001**296-S-16**

222-S LABORATORY COMPLEX

Emission Unit ID: 337

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W S-296S021-001**296-S-21**

222-S LABORATORY COMPLEX

Emission Unit ID: 254

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
Backup Exhaust	Fan	1	Operates independently or in parallel with primary exhaust
Primary Exhaust	Fan	3	In parallel, serves both hot cell addition & main lab.
222S Lab Complex	HEPA	1	For both primary and backup exhaust systems
222-S Lab Hot Cells	HEPA	3	In series for both the primary and backup exhaust systems

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week samples/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
222-S Lab Hot Cell Expansion	AIR-Feb11	2/28/1992	10

Conditions (state only enforceable)

- 1) The source term shall not exceed 7.84E-2 curies of SR-90 and 3.92E-2 curies of CS-137. If the project exceeds this projected source term, additional notification will be required.
- 2) HEPA filters shall be tested in place to ensure that they remove at least 99.95 percent of particles ranging in size from 0.1 micron to 3.0 micron.
- 3) Exhaust air shall pass through existing HEPAs in the 222-SC and 222-SB facilities prior to discharge to the atmosphere.

200W S-296S023-001**296-S-23**

222-S LABORATORY COMPLEX

Emission Unit ID: 438

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	
	HEPA	2	In series
	Prefilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL 1 every 2 years
WAC 246-247-075[3] BETA

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

NDA

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
219-S to 204-AR Truck Transfers	NOC revision approval	1/19/1999	332

Conditions (state only enforceable)

- 1) Complete and submit log sheets of waste transfers. Estimated emissions will be excluded from the log sheets as truck transfer emissions are exhausted to the existing stack.

Project Title	Approval No.	Date Approved	NOC_ID
219-S to 204-AR Truck Transfers	AIR 91-1101	11/12/1991	8

Conditions (state only enforceable)

- 1) The dose to the maximally exposed individual (MEI) shall not exceed 0.039 mrem/year.

200W P-296SX-001**296-S-15**

241-SX TANK FARM

Emission Unit ID: 64

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	1 flow path
	HEPA	2	1 flow path
	Prefilter	1	1 flow path

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 4 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Saltwell Pumping Tanks 241-SX-101, 241-SX-102, 241-SX-103, and 241-SX-105	AIR 00-108	2/9/2000	423

Conditions (state only enforceable)

- 1) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080 (8)).
- 2) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
- 3) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 4) The total unabated emissions are limited to 2.03E-02 mrem/yr.
- 5) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 6) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this
- 7) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 8) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).

- 9) The department reserves the right to inspect and audit this unit during operation. This includes all activities, equipment, operation procedures, documents, data, and other records related to compliance with the regulations (WAC 246-247-080 (1)).
- 10) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 11) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 12) Approved saltwell pumping activities include the following: installation of the saltwell screen, installation of jet pump, flushing the transfer lines, transferring of the liquid waste (via the pumping process), addition of limited amounts of water to prevent plugging of the saltwell screen and transfer line, and miscellaneous activities that will not increase emissions.
- 13) Unabated alpha emissions are limited to 1.04 E-04 Ci/yr., beta emissions are limited to 6.33E-03 Ci/yr., and Cs-137 emissions are limited to 8.68E-04 Ci/yr.
- 14) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emission control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 15) The average stack flow rate of 2.8 cubic meters per second. Testing of the HEPA filters will be performed annually.
- 16) The total abated emissions are limited to 1.02E-05 mrem/yr.
- 17) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 18) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 19) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 20) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 21) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 22) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 23) The work approved in this NOC is limited to saltwell pumping in tanks 241-SX-101, 241-SX-102, 241-SX-103 and 241-SX-105 in the 241-SX-Tank Farm.

Project Title	Approval No.	Date Approved	NOC_ID
Saltwell Pumping of tank 241-SX-106	RTAM	7/2/1998	283

Project Title	Approval No.	Date Approved	NOC_ID
241-SX-104 Saltwell Pumping, Phase I		3/12/1998	263

Project Title	Approval No.	Date Approved	NOC_ID
Rotary Mode Core Sampling (RMCS) Systems at 241-SX	AIR 97-1101	11/13/1997	242

Conditions (state only enforceable)

- 1) The process description in Section 6.0, with the equipment described, is the only activity and equipment approved. The sequence of events to protect the air pathway must be followed. No processes are approved, unless described in this section.
- 2) Due to uncertainties in tank content and to assure that conditions are adequately monitored, the SX exhaustor must be continuously sampled whenever samples are being collected under the umbrella of the NOC in rotary mode.
- 3) The existing sampling system may be used, providing it successfully passes an inspection by the department. That inspection can be arranged as soon as the project is ready to proceed. The sampling system must be isokinetic or subisokinetic.
- 4) Only those activities described specifically in this NOC may be conducted. No inferences to other projects will be allowed.
- 5) This project is only approved for the 241-SX-101 through 105 tanks, in any combination, not to exceed eight cores per year. No other tanks in the SX Tank Farm may be sampled under this NOC; since no data for those tanks is
- 6) The offsite projected abated dose to the Maximally Exposed Individual was verified with CAP-88 PC, after several conversations with Hanford staff to assure us that we were using the same parameters. The CAP-88 run in the NOC was the mainframe version, using parameters that the department has not approved. The officially accepted calculation for verification is the PC version, which is the only version we have. All issues between the two versions were satisfactorily resolved for this project.
- 7) Health physics and existing near field monitoring must be routinely performed to verify that no fugitive emissions occur. The fan or fans must be operated sufficiently to ensure that tank pressure is maintained below atmospheric pressure. If negative pressure is lost in the tank being sampled in rotary mode, the drill system must be shut down.
- 8) All activities associated with this approval must be proceduralized prior to beginning the project.
- 9) Records must clearly indicate when core samples are being collected in rotary mode versus push mode.
- 10) The offsite dose limit for this project, added to current SX Tank Farm emissions, may not exceed 2.0 E-6 mrem/year to the maximally exposed individual.
- 11) The SX tank being sampled during rotary mode core sampling must be actively ventilated at all times.
- 12) Abated emissions of each radionuclide are limited to those in Table 8. No radionuclide that is not listed in this table may be emitted in any detectable concentrations (using current laboratory detection methods).
- 13) The HEPA filters must be successfully demonstrated to have passed an efficiency test prior to operating the RMCS in rotary mode. It must be at least 99.95% efficient (for 0.3 micron median diameter particles).
- 14) During push mode sampling, periodic confirmatory sampling may be conducted; in the manner currently documented in the Air Operating Permit for 296-S-15.

200W P-296P022-001**296-P-22**

241-SY TANK FARM

Emission Unit ID: 53

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	2	2 in series
	Prefilter	1	
	Heater	Non-Operational	
	Moisture Separator	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W P-296SY-001**296-P-23**

241-SY TANK FARM

Emission Unit ID: 56

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	
	HEPA	2	In series
	Prefilter	1	
	Heater	Non-Operational	
	De-entrainer	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 2 active Notice of Construction.**Project Title**

241-SY-101 Crust Growth Near Term Mitigation

Approval No.

Shortform

Approval

Date Approved

4/23/1999

NOC_ID

358

Conditions (state only enforceable)

- 1) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 2) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 3) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 4) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in

the above cited regulation.

- 5) The facility must maintain a log in an approved format for this activity or emission unit.
- 6) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 7) The abated emission limit is: 1.89E-05 mrem/yr to the MEI.
- 8) The process is limited to the exact description described in the NOC.
- 9) The required controls are: _As per NOC.
- 10) The radionuclides re limited to: As per NOC
- 11) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 12) U.S. DOE shall comply with all requirements and limitations of this license.
- 13) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use an maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 14) The department may require an ALARACT demonstration at any time.
- 15) The annual possession quantity is limited to: As per NOC.
- 16) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 17) This approval, with its conditions and limitations, constitutes and amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit.
- 18) U.S. DOE shall monitor this project or emission unit as follows: As stated in this NOC and the original NOC titled Mixer pump test in tank 241-SY-101.
- 19) The facility shall make requested documents available in a timely manner for review.
- 20) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 21) All measured or calculated emissions must be reported annually.
- 22) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 23) Periodic confirmatory sampling is required. It must consist of: As described in the NOC, the task specific confirmatory monitoring called out in the TWRS ALARACT Demonstration.
- 24) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction ,as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.

Project Title	Approval No.	Date Approved	NOC_ID
241-SY-101 Tank Mixer Pump Replacement	AIR 95-203	2/21/1995	62

Conditions (state only enforceable)

- 1) Process Description: This NOC describes the activities required to safely remove and replace the mixer pump in 101-SY in the event of pump failure, and assesses the potential for increased air emissions associated with those
- 2) Monitoring System: The flexible receiver system contains a gamma detection system to monitor the deacon process. HPT coverage will monitor radiation levels outside the tank.

- 3) Control System: Potential emissions are to be controlled by a flush and decontamination system and a flexible receiver system which maintains tank containment during pump decon and removal, prevents waste spills while pump is maneuvered into
- 4) Dose: 2.0×10^{-6} mrem/yr.

200W P-296P028-001**296-P-28**

241-SY TANK FARM

Emission Unit ID: 54

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Backup exhauster, intermittent operation
	HEPA	2	2 in series
	Prefilter	1	
	Heater	Non-Operational	
	De-entrainer	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W W-PORTEX 020**296-P-43**

241-SY TANK FARM

Emission Unit ID: 57

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Fan is in operational standby
	HEPA	2	HEPAs in series
	Heater	1	
	Prefilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 weeks/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Active ventilation: continuous during operation.

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, addition of tanks 241-A-101, 241-U-102, Rev. 4	NOC revision approval	7/31/1999	380

Conditions (state only enforceable)

- 1) Conditions of AIR 98-1207 apply to portable exhauster use on single shell tanks 241-A-101 and 241-U-102.

Project Title	Approval No.	Date Approved	NOC_ID
Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, Rev 2	AIR 98-1207	12/16/1998	327

Conditions (state only enforceable)

- 1) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 2) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).
- 3) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements, they must be given to the department when they are known to allow for unannounced inspections as required by EPA (WAC 246-247-080(9)).
- 4) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that

last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).

- 5) Periodic confirmatory sampling is required on passively ventilated tanks. It is outlined in the draft Air Operating Permit. It must consist of annual verification of smearable levels of activity on the inside surface of the ducting downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent, if one exists.
- 6) All portable exhausters used in the salt-well pumping must meet the requirements specified in 40 CFR 61, Subpart H and associated requirements.
- 7) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 8) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit WAC 246-247-060(1)(e) and (2)(c).
- 9) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 10) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 11) Portable exhausters will be available during transfer and used when flammable gases concentrations exceed 25 percent of the lower flammability limit (LFL) during salt-well pumping.
- 12) All other commitments made in the NOC are considered requirements. Any deviation from those commitments must be approved by the department.
- 13) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 14) All proportional activities described in the NOC must be satisfactorily completed prior to waste transfer.
- 15) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(6)).
- 16) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 17) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 18) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction. All activities are limited to these tanks. 241-AX-101, 241-BY-105, 241-BY-106, 241-S-101, 241-S-102, 241-S-103, 241-S-106, 241-S-107, 241-S-109, 241-S-111, 241-S-112, 241-U-103, 241-U-105, 241-U-106, 241-U-107, 241-U-108, 241-U-109, 241-U-111
- 19) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.
- 20) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).

200W W-PORTEX 024**296-P-44**

241-SY TANK FARM

Emission Unit ID: 58

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Fan is in operational stand-by
	HEPA	2	2 HEPAs in series
	Heater	1	
	Prefilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 weeks/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Active ventilation: continuous during operation.

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, addition of tanks 241-A-101, 241-U-102, Rev. 4	NOC revision approval	7/31/1999	380

Conditions (state only enforceable)

- 1) Conditions of AIR 98-1207 apply to portable exhauster use on single shell tanks 241-A-101 and 241-U-102.

Project Title	Approval No.	Date Approved	NOC_ID
Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, Rev 2	AIR 98-1207	12/16/1998	327

Conditions (state only enforceable)

- 1) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 2) Portable exhausters will be available during transfer and used when flammable gases concentrations exceed 25 percent of the lower flammability limit (LFL) during salt-well pumping.
- 3) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 4) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this

unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.

- 5) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 6) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 7) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 8) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements, they must be given to the department when they are known to allow for unannounced inspections as required by EPA (WAC 246-247-080(9)).
- 9) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 10) All proportional activities described in the NOC must be satisfactorily completed prior to waste transfer.
- 11) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 12) All other commitments made in the NOC are considered requirements. Any deviation from those commitments must be approved by the department.
- 13) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 14) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).
- 15) Periodic confirmatory sampling is required on passively ventilated tanks. It is outlined in the draft Air Operating Permit. It must consist of annual verification of smearable levels of activity on the inside surface of the ducting downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent, if one exists.
- 16) All portable exhausters used in the salt-well pumping must meet the requirements specified in 40 CFR 61, Subpart H and associated requirements.
- 17) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 18) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction. All activities are limited to these tanks. 241-AX-101, 241-BY-105, 241-BY-106, 241-S-101, 241-S-102, 241-S-103, 241-S-106, 241-S-107, 241-S-109, 241-S-111, 241-S-112, 241-U-103, 241-U-105, 241-U-106, 241-U-107, 241-U-108, 241-U-109, 241-U-111
- 19) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(6)).
- 20) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).

200W W-PORTEX 025**296-P-45**

241-SY TANK FARM

Emission Unit ID: 50

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Fan is in operational stand-by
	HEPA	2	2 HEPAs in series
	Heater	1	
	Prefilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 weeks/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Active ventilation: continuous during operation.

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, addition of tanks 241-A-101, 241-U-102, Rev. 4	NOC revision approval	7/31/1999	380

Conditions (state only enforceable)

- 1) Conditions of AIR 98-1207 apply to portable exhauster use on single shell tanks 241-A-101 and 241-U-102

Project Title	Approval No.	Date Approved	NOC_ID
Portable Exhauster Use On Single Shell (SST) Tanks During Saltwell Pumping, Rev 2	AIR 98-1207	12/16/1998	327

Conditions (state only enforceable)

- 1) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 2) Portable exhausters will be available during transfer and used when flammable gases concentrations exceed 25 percent of the lower flammability limit (LFL) during salt-well pumping.
- 3) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 4) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this

unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.

- 5) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 6) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 7) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 8) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements, they must be given to the department when they are known to allow for unannounced inspections as required by EPA (WAC 246-247-080(9)).
- 9) All proportional activities described in the NOC must be satisfactorily completed prior to waste transfer.
- 10) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(6)).
- 11) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 12) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 13) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).
- 14) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 15) All other commitments made in the NOC are considered requirements. Any deviation from those commitments must be approved by the department.
- 16) Periodic confirmatory sampling is required on passively ventilated tanks. It is outlined in the draft Air Operating Permit. It must consist of annual verification of smearable levels of activity on the inside surface of the ducting downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent, if one exists.
- 17) All portable exhausters used in the salt-well pumping must meet the requirements specified in 40 CFR 61, Subpart H and associated requirements.
- 18) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 19) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction. All activities are limited to these tanks. 241-AX-101, 241-BY-105, 241-BY-106, 241-S-101, 241-S-102, 241-S-103, 241-S-106, 241-S-107, 241-S-109, 241-S-111, 241-S-112, 241-U-103, 241-U-105, 241-U-106, 241-U-107, 241-U-108, 241-U-109, 241-U-111
- 20) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).

200W S-296S025 001**296-S-25**

241-SY TANK FARM

Emission Unit ID: 59

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Emission unit operates intermittently
	HEPA	2	In series
	Prefilter	1	
	Heater	1	Heater runs intermittently due to temperature Regulation
	De-entrainer	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W W-PORTEX 027**241-UX-154 Diversion Box**

241-U TANK FARM

Emission Unit ID: 344

Abatement Technology (state only enforceable)

Applicable Requirements: ALARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Fan		1	
HEPA		1	
Prefilter		1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)			NDA of filter at the end of the calendar year; smear seams and potential release locations at the end of each day

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

NDA; operating log; smear seams and potential release locations on the portable exhauster

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
NOC Revision to AIR 99-1003 Tank Farm Waste Transfer Pit 244-TX DCRT	NOC Revision to AIR 99-1003	9/5/2000	492

Conditions (state only enforceable)

- 1) Primary Controls (The following activities require pre-job and post-job radiation surveys, and 25 mph wind speed controls)
 - * Perform remote inspections with cover blocks on
 - * Perform decontamination of pit surfaces or pit contents with cover blocks on
 - * Apply fixative with cover blocks on
 - * Flush drains and check flow of drains with cover blocks on
- 2) Secondary Controls (The following activities require installation of a fall protection handrail draped in plastic forming a contamination barrier around the top of the pit)
 - * Remove/replace cover blocks
 - * Perform inspections with cover blocks off
 - * Perform decontamination of pit contents with cover blocks off
 - * Apply fixative with a hand held sprayer with cover blocks off
 - * Flush drains and check flow of drains with cover blocks off
 - * Repair/replace/move leak detectors or other pit instrumentation/equipment with cover blocks off

- 3) Tertiary Controls (The following activities require installation of a fall protection handrail draped in plastic forming a contamination barrier around the top of the open pit and a bullpen with an operating portable exhauster)
- * Removal of cover blocks and performing
- Install, disconnect, change or cut up jumpers/blanks, valves or nozzles

Project Title	Approval No.	Date Approved	NOC_ID
Tank Farm 241-UX-154 Diversion Box	AIR 99-1003	10/6/1999	401

Conditions (state only enforceable)

- 1) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 2) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitutes a revision of the Radiation Air Emissions License.
- 3) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in this NOC or during operation), it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 4) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The required controls are as follows:
 - Abatement control technology:
The portable exhauster providing active ventilation within the bullpen shall consist of a pre-filter, one HEPA filter, and a blower that draws air through the filters and pushes air out an exhaust port.
 - Alaract:
Radiation control technicians shall inspect and approve required containment;
Pit work shall be shut down (or not be initiated) when sustained wind speeds exceed 25 miles per hour or are predicted to do so by Hanford Meteorological Station personnel for the period of planned pit work;
The opening of the bullpen shall not exceed an area one-third the size of a fully opened roof;
Affected transfer lines shall be flushed with cover blocks in place;
Jumpers or other instrumentation/equipment removed from the pit shall be drained of free liquid and decontaminated or contained before removal. The outer-most surface shall not exceed 1,000 disintegrations per minute/100 square centimeters beta/gamma and 20 disintegrations per minute/100 square centimeters alpha before removal from the bullpen;
Only blocks necessary to perform intended work shall be removed. At the end of the work shift, the cover blocks shall be re-installed unless waste in the pit is contained in transfer lines or other pit equipment;
Active ventilation of the bullpen shall be used after removal of the cover blocks and during work activities to minimize radiological releases. Air inflow shall be achieved by using a 1,000 cubic feet per minute exhauster;
The inlet and outlet of the ventilation system will be sealed with plastic when the ventilation system is not in operation;
- 7) This license approval is valid until July 14, 2004.
- 8) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 9) The abated dose limit shall not exceed 1.53E-02 mrem/yr. to the MEI.
- 10) To assure the intent of the ALARACT standard is sustained, and the adequacy of the design for the control technology equipment is maintained, continuous personnel coverage shall be employed while this equipment is in
- 11) The total annual possession quantity is limited to 3.28E+03 curies.
- 12) The process for approved activities are limited to those listed below. No other processes are approved. Department inspectors will verify this condition.

Removal and/or installation of cover blocks:

Inspections:

Installation, disconnection, changing, leak testing, and cutting up jumpers/blanks or other pit equipment:

Repairing/replacing valves, jumpers, pumps, leak detectors, or other instrumentation/Equipment:

Decontamination activities:

Applying fixative with cover blocks on or off:

Clearing drains and checking the flow of drains:

Unplug Transfer Lines:

- 13) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 14) The radionuclides and annual possession quantities are limited to those stated in the following table.

SUMMARY OF OVERALL EMISSIONS FOR 241-UX-154 PIT WORK

ISOTOPE	ANNUAL POSSESSION QUANTITY, CURIES	UNABATED RELEASE, CURIES	UNABATED OFFSITE DOSE, MILLREM/YEAR	PERCENT OF OFFSITE DOSE
3H	6.30E-01	6.17E-05	1.23E-09	0.00%
14C	9.48E-02	9.29E-06	1.86E-08	0.00%
59Ni	1.53E-02	1.50E-06	3.61E-10	0.00%
60Co	4.30E-01	4.22E-05	8.01E-06	0.05%
63Ni	1.45E+00	1.43E-04	2.85E-08	0.00%
79Se	9.26E-03	9.08E-07	9.08E-08	0.00%
90Y	6.94E+02	6.80E-02	1.77E-05	0.12%
90Sr	6.94E+02	6.80E-02	5.99E-03	39.18%
93mNb	3.35E-02	3.29E-06	2.27E-30	0.00%
93Zr	4.49E-02	4.40E-06	4.38E-09	0.00%
99Tc	6.70E-01	6.57E-05	1.18E-06	0.01%
106Ru	1.95E-05	1.91E-09	2.25E-11	0.00%
113mCd	2.37E-01	2.32E-05	2.32E-06	0.02%
125Sb	4.63E-01	4.54E-05	9.52E-07	0.01%
126Sn	1.39E-02	1.36E-06	5.03E-08	0.00%
129I	1.30E-03	1.27E-07	9.65E-09	0.00%
134Cs	7.20E-03	7.06E-07	5.51E-08	0.00%
137Cs	9.43E+02	9.24E-02	1.94E-03	12.70%
137mBa	8.91E+02	8.74E-02	7.52E-15	0.00%
151Sm	3.27E+01	3.21E-03	1.86E-06	0.01%
152Eu	1.30E-02	1.27E-06	2.42E-07	0.00%
154Eu	4.49E+00	4.40E-04	6.60E-05	0.43%
155Eu	9.72E-01	9.53E-05	6.00E-07	0.00%
226Ra	1.09E-06	1.07E-10	3.86E-11	0.00%
228Ra	3.83E-04	3.76E-08	5.64E-09	0.00%
227Ac	5.38E-06	5.27E-10	5.80E-09	0.00%
229 Th	8.96E-06	8.78E-10	1.05E-08	0.00%
232Th	3.16E-05	3.09E-09	1.92E-08	0.00%
231Pa	1.14E-05	1.12E-09	9.98E-09	0.00%
232U	2.27E-03	2.23E-07	1.91E-06	0.01%

233U	8.69E-03	8.52E-07	2.04E-06	0.01%
234U	9.52E-03	9.34E-07	2.24E-06	0.01%
235U	3.76E-04	3.68E-08	8.47E-08	0.00%
236U	4.91E-04	4.81E-08	1.11E-07	0.00%
238U	7.56E-03	7.41E-07	1.56E-06	0.01%
237Np	2.41E-03	2.37E-07	2.11E-06	0.01%
238Pu	1.45E-01	1.42E-05	8.39E-05	0.55%
239Pu	2.39E+00	2.34E-04	1.50E-03	9.80%
240Pu	4.29E-01	4.20E-05	2.69E-04	1.76%
241Pu	5.45E+00	5.35E-04	5.35E-05	0.35%
242Pu	1.28E-04	1.26E-08	7.68E-08	0.00%
241Am	5.55E+00	5.45E-04	5.34E-03	34.91%
243Am	6.57E-05	6.44E-09	6.31E-08	0.00%
242Cm	4.78E-03	4.69E-07	1.50E-07	0.00%
243Cm	4.60E-04	4.51E-08	2.97E-07	0.00%
244Cm	1.06E-02	1.04E-06	5.40E-06	0.04%
TOTAL	3.28E+03	3.21E-01	1.53E-02	100.00%

- 15) When this project is completed, or operations cease, the facility shall notify the department and indicate whether or not any potential for airborne release occur (WAC 246-247-080(6)).
- 16) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080 (1)).
- 17) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 18) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080 (8)).
- 19) If there is an unexpected release of radioactivity or is there is a shutdown or other condition that, if it were allowed to persist, would result in emissions or radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval
- 20) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 21) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 22) Periodic confirmatory emission monitoring shall be verified using the following two methods. (1) Non destructive analysis to be performed at the end of the calendar year, and log is to be maintained with a record of the exhausters activities for the pit work. This log shall include information as to location, start and stop time and date, total of hours of operation with purpose specified. Additionally, the ductwork, seams and potential release locations on the portable exhausters shall be smeared at the end of each day to demonstrate that no contamination is escaping. The results of this shall be entered as part of the exhausters record log.

In the event that the exhausters is used on different emission units, the Department of Health reserves the right to request an nondestructive analysis / assay (NDA) after each exhausters job assignment (WAC 246-247-075(3)).

- 23) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 24) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 25) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).

200W P-242S-001**296-S-18**

242-S Evaporator

Emission Unit ID: 163

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 parallel flow paths
	HEPA	2	2 in parallel with 2 in series
	Prefilter	1	2 in parallel

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]	TOTAL ALPHA TOTAL BETA	TOTAL ALPHA TOTAL BETA	4 week sample/ year
Sampling Requirements Record Sample	[WAC 246-247-075(5), WAC 173-401-615(1)]:		

200W P-242T-001**296-T-17**

242-T Evaporator

Emission Unit ID: 162

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 in parallel
	HEPA	4	2 trains with 2 parallel flow paths with 2 HEPAs in series (Minimum of 1 train operates at a time)
	Heater	Non-Operational	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

200W CWC**Central Waste Complex**

Central Waste Complex
Emission Unit ID: 439

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) WAC 246-247-075(3)			Near field ambient monitoring program

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Environment Sampling; Ambient air monitors N-449, N-457, N-964, and N-433

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Modification to Central Waste Complex (CWC) Radioactive Air Emission NOC for Vented Containers	NOC revision approval	1/4/2000	419

Conditions (state only enforceable)

- 1) Weekly smear sampling of 30 NucFil® filters is no longer required.
- 2) Periodic confirmatory measurement is a quarterly air sample collected for a two-week interval.

Project Title	Approval No.	Date Approved	NOC_ID
Modification to Central Waste Complex (CWC) Radioactive Air Emission NOC for Vented Containers	RTAM	8/24/1998	295

Conditions (state only enforceable)

- 1) The process is limited to the exact description described in this NOC.
- 2) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 3) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 4) Container inventory shall be tracked (logged) using the SWITS database.
- 5) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.

- 6) Periodic confirmatory sampling is required. It must consist of: As in Section 9 of the referenced NOC.
- 7) The facility shall make requested documents available in a timely manner for review.
- 8) If a positive smear is detected ($>20\text{dpm}/100\text{cm}^2$ alpha and $>10,000\text{ dpm}/100\text{cm}^2$ for beta/gamma) while performing the routine survey as in Attachment A, the department shall be notified.
- 9) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 10) U.S. DOE shall comply with all requirements and limitations of this license.
- 11) The facility must maintain a log in an approved format for this activity or emission unit.
- 12) U.S. DOE shall monitor this project or emission unit as follows: See other conditions.
- 13) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 14) The radionuclides are limited to: As in Section 8 of this NOC.
- 15) Ambient air monitors N-449, N-457, N-964, N-433 shall be maintained for the duration of this project as monitors for diffuse fugitive emissions
- 16) The annual possession quantity is limited to: As in Section 9 of this NOC.
- 17) The department may require an ALARACT demonstration at any time.
- 18) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 19) This approval, with its conditions and limitations, constitutes an amendment to the Department's Radioactive Air Emissions License. This amendment must be included in the next revision of the Hanford Air Operation Permit.
- 20) The abated emission limit is $2.4\text{E-}5$ mrem/yr to the MEI.
- 21) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 22) The required controls are: As in Section 6 of this NOC.
- 23) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne release occur.
- 24) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 25) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 26) All measured or calculated emissions must be reported annually.

200W P-296Z014-001**296-Z-14**

PLUTONIUM FINISHING PLANT(Z PLANT)

Emission Unit ID: 391

Abatement Technology (state only enforceable)

Applicable Requirements:ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	2 fans, 1 fan is backup
	HEPA	2	3 parallel paths of 2 HEPAs in series, minimum of 1 path in operation

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W P-296Z015-001**296-Z-15**

PLUTONIUM FINISHING PLANT(Z PLANT)

Emission Unit ID: 387

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	
	HEPA	1	
	Prefilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]		TOTAL ALPHA	One 4 week period per year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Plutonium Finishing Plant Low-Level Waste Treatment Facility	AIR 92-710	7/30/1992	11

Conditions (state only enforceable)

- 1) Abated dose to the MEI is not expected to exceed 9.7E-05 mrem/yr.
- 2) Monitoring: shall use record sampler. The sampler probe and system design is to be consistent with ANSI N13.1 guidance for sampling particulate matter.
- 3) Process Description: PFP Liquid Low Level Waste Treatment Facility prior to discharge to crib 216-Z-20 Crib.
- 4) Control System: The ventilation system shall consist HEPA filters to control particulate radionuclides, which shall remove at least 99.95 percent.

200W P-296Z003-001**296-Z-3**

PLUTONIUM FINISHING PLANT(Z PLANT)

Emission Unit ID: 386

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	2	2 parallel paths with minimum of 1 path in operation
	HEPA	2	2 parallel paths with 2 HEPAs in series, minimum of 1 path in operation
	Prefilter	2	In parallel
	Heater	1	
	Demister	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W P-296Z005-001**296-Z-5**

PLUTONIUM FINISHING PLANT(Z PLANT)

Emission Unit ID: 389

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
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	HEPA	2	
<hr/>			
	Fan	2	2 parallel flow paths with 2 fans in parallel
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Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Plutonium Finishing Plant W-460 "Plutonium Stabilization and Handling"	AIR 00-709	7/20/2000	450

Conditions (state only enforceable)

- 1) The annual possession quantities for all construction activities associated with the 296-Z-5 stack are limited to 1.2 E-5 curies for all radionuclides combined. The 296-Z-5 stack must remain operational during all construction
- 2) The 2736-ZB building will exhaust out of the existing 296-Z-5 stack through two stages of individually testable HEPA filters. They will have a minimum efficiency of 99.95% for particulate with a median diameter of 0.3
- 3) All differential pressure magnehelic gauges associated with 296-Z-5, 296-Z-7 and 296-Z-6 HEPA filters must be calibrated annually.

200W P-296Z006-001**296-Z-6**

PLUTONIUM FINISHING PLANT(Z PLANT)

Emission Unit ID: 390

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Fan	1	
HEPA	2	2 stages for process operations

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Plutonium Finishing Plant W-460 "Plutonium Stabilization and Handling"	AIR 00-709	7/20/2000	450

Conditions (state only enforceable)

- 1) The only modification approved for the 2736-Z Building is the replacement of the current shelving for new larger units to store the new 3013 compliant cans. Only the new 3013 cans (considered sealed sources) are approved for long-term storage in the 2736-Z building. No modifications are to be made to the ventilation system that exhausts through the minor 296-Z-6 stack.
- 2) All differential pressure magnehelic gauges associated with 296-Z-5, 296-Z-7 and 296-Z-6 HEPA filters must be calibrated annually.

200W P-291S001-001**291-S-1**

S PLANT (REDOX)

Emission Unit ID: 332

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	2	In parallel, only 1 operates at a time
	Sandfilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 1 week sample / year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W P-296T011-001**296-T-11**

Solid Waste Management Facilities (TRUSAF)

Emission Unit ID: 61

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	One fan serves both 296-T-11 and
	HEPA	2	2 stage, last stage 4 in parallel (HEPA's serve both 296-T-11 and 296-T-12)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W P-296T012-001**296-T-12**

Solid Waste Management Facilities (TRUSAF)

Emission Unit ID: 60

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	One fan serves both 296-T-11 and
	HEPA	2	2 stage, last stage 4 in parallel (HEPA's serve both 296-T-11 and 296-T-12)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W P-291T001-001**291-T-1**

T PLANT COMPLEX

Emission Unit ID: 314

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	3	2 in series, 1 parallel (two fans operate while the third fan is a backup)
	HEPA	2	In series
	Prefilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

200W P-296T007-001**296-T-7**

T PLANT COMPLEX

Emission Unit ID: 315

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	1	
	Prefilter	1	
	Heater	1	
	Demister	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
T Plant Complex Secondary Containment and Leak Detection Upgrades	RTAM	6/12/1996	164

Conditions (state only enforceable)

- 1) Approval of T Plant secondary and leak detection upgrades to allow increased decontamination activities within the 2706-T building, and to initiate decon activities in the 2706-TA building and construct the 2706-TB holding tanks.

200W P-291U001-001**291-U-1**

U PLANT

Emission Unit ID: 310

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	2	In parallel
	Sandfilter	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 1 week sample / year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

200W P-213W-001**296-W-3**

WASTE COMPACTER

Emission Unit ID: 308

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.
	HEPA	Non-Operational	This unit is inactive and will require an NOC to resume operation or a report of closure to deregister.

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

300 EP-305B-01-S**305 B Building**

305 B BUILDING

Emission Unit ID: 197

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)]
			[WAC 246-247-060(5)]
<hr/>			
	Fan	1	
<hr/>			
	HEPA	1	
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Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 2 active Notice of Construction.**Project Title**

Modification of Annual Possession Quantity for 305B Building
(modifies AIR 95-811)

Approval No.

AIR 98-1007

Date Approved

10/8/1998

NOC_ID

319

Conditions (state only enforceable)

- 1) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 2) The process is limited to the exact description described in the NOC.
- 3) The required controls are: HEPA Filters (Two) Fume Hood and Room Exhaust.
- 4) This approval, with its conditions and limitations, constitutes an amendment to the Department's Radioactive Air Emissions License. This amendment must be included in the next revision of the Hanford Air Operating Permit.
- 5) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 6) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. (Note: Applicable

standards(WAC 246-247-040)include unit specific emission limits (paragraph 5), the offsite dose standard(paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), or any limitations included in this approval(paragraph 5)).

- 7) U.S. DOE shall monitor this project or emission unit as follows: Continuous
- 8) The radionuclides re limited to: As listed in the NOC Letter # 98-EAP-455
- 9) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 10) The facility must maintain a log in an approved format for this activity or emission unit.
- 11) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)).
- 12) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 13) The abated emission limit is 1.56E-05 mrem/yr to the MEI.
- 14) The department may require an ALARACT demonstration at any time.
- 15) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne release occur.
- 16) The department reserves the right to inspect and audit this unit during operation and operation including all activities, equipment, operation procedures, documents, data, and other records related to compliance with the
- 17) All measured or calculated emissions must be reported annually.
- 18) The annual possession quantity is limited to: NOC Letter # 98-EAP-455
- 19) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation it reserves the right to require modifications to bring it into compliance.
- 20) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 21) U.S. DOE shall comply with all Conditions and Limitations of this license.
- 22) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 23) The facility shall make requested documents available in a timely manner for review.

Project Title	Approval No.	Date Approved	NOC_ID
305-B Building Modification	AIR 95-811	8/25/1995	105

Conditions (state only enforceable)

- 1) Control Technology 1 - high efficiency particulate air filter, 1 - fan
- 2) Potential-to-emit abated (total effective dose equivalent to the maximally exposed individual) 3.0 E-04 mrem/yr
- 3) Stack measurement - Periodic confirmatory measurements - 2 week sample/year

300 EP-306W-03-V**306 W Building**

306-W MATLS DEV LAB

Emission Unit ID: 348

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	2	In Series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
X-Ray and Low Level Waste Repackaging in the 306W Building	Shortform Approval	8/4/1997	233

Conditions (state only enforceable)

- 1) The exhaust air from the building will be HEPA filtered
- 2) Perform periodic monitoring

300 P-309PRTR-001**309-PRTR**

309 Plutonium Recycle Test Reactor
Emission Unit ID: 195

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Intermittent operation
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 1 per year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Smear Survey

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Decontamination and Stabilization Activities For 309 Plutonium Recycle Test Reactor	NOC revision approval	9/8/1999	391

Conditions (state only enforceable)

- 1) WDOH Conditions and Limitations dated 8/18/98 (Shortform approval) are applicable. There are no new WDOH conditions that apply to this NOC.

Project Title	Approval No.	Date Approved	NOC_ID
Decontamination and Stabilization Activities For 309 Plutonium Recycle Test Reactor	Shortform Approval	8/18/1998	291

Conditions (state only enforceable)

- 1) Monitor emission using the existing 309-PR-TR stack sampling system.
2) Emissions shall be exhausted through the 309-PR-TR stack having a single stage of HEPA filtration with a minimum efficiency of 99.95 percent for 0.3 micron diameter particles.

300 EP-318-01-S**EP-318-01-S**

318 Building

Emission Unit ID: 175

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

No controls

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 2 active Notice of Construction.**Project Title**

Building 318 Modification and stack relocation

Approval No.Shortform
Approval**Date Approved**

1/6/1998

NOC_ID

251

Conditions (state only enforceable)

- 1) Unabated dose is 3.74E-07 mrem/year
- 2) Abated dose is 3.74E-07 mrem/year
- 3) Periodic confirmatory measurement = 2 week sample/year
- 4) There are no stack controls on the building exhaust
- 5) Annual possession quantity of radionuclides: inventory unchanged

Project Title

Removal of HEPA Filtration in the 318 Building

Approval No.

RTAM

Date Approved

12/7/1995

NOC_ID

131

300 EP-320-01-S**EP-320-01-S**

320 Building

Emission Unit ID: 358

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	3	2 In parallel, 1 backup
	HEPA	2	In series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

300 EP-320-02-S**EP-320-02-S**

320 Building

Emission Unit ID: 355

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	2	In series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

300 EP-320-03-S**EP-320-03-S**

320 Building

Emission Unit ID: 356

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

300 EP-320-04-S**EP-320-04-S**

320 Building

Emission Unit ID: 357

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

300 EP-323-01-S**EP-323-01-S**

323 MECH PROPERTIES

Emission Unit ID: 359

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
Equipment Room	HEPA	1	
Hot Cell	HEPA	2	In series
	Fan	1	Common to both areas

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]	TOTAL ALPHA TOTAL BETA		2 week sample/year
Sampling Requirements	[WAC 246-247-075(5), WAC 173-401-615(1)]:		
Record Sample			

300 EP-326-01-S**EP-326-01-S**

326 MATERIAL SCIENCE LAB

Emission Unit ID: 362

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
Hot cells and hoods	HEPA	1	
Hoods, SEM	HEPA	2	In series
	Fan	3	In parallel, common to both areas

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Xenon Research Activities in the Materials Sciences Laboratory (326 Building)	Shortform Approval	10/17/2000	493

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit.
- 3) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction (as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 4) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to
- 5) Periodic confirmatory sampling is required: Periodic monitoring in accordance with stack EP-326-01-S. It is understood that this stack is currently be monitored on a continuous basis. It is also understood that this stack is registered with the Department of Health as a minor stack.
- 6) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 7) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in

the use an maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.

- 8) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13)and WAC 246-247-075(6)).
- 9) The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.
- 10) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 11) The department may require an ALARACT demonstration at any time.
- 12) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 13) All measured or calculated emissions must be reported annually.
- 14) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 15) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occur.
- 16) The facility must maintain a log in an approved format for this activity or emission unit.
- 17) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 18) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 19) The facility shall make requested documents available in a timely manner for review.
- 20) The process is limited to the exact description in the NOC.
- 21) The required controls are: As described in Section 6. Proposed Controls.
- 22) The radionuclides are limited to: Those described in Section 10. Annual Possession Quantity..
- 23) The annual possession quantity is limited to: See Section 10 Annual Possession Quantity
- 24) The abated emission limit is: 4.54E-07 mrem/yr to the MEI.

Project Title

Moving the Radon Generator Project from the 329 Building to the 326 Building.

Approval No.

RTAM

Date Approved NOC_ID

3/21/2000

467

300 EP-327-02-V**EP-327-02-V**

327 BUILDING

Emission Unit ID: 408

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Prefilter	1	Serves compactor area.
	Fan	1	
	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) WAC 246-247-075(3)	TOTAL ALPHA TOTAL BETA		One 4-week sample per year
Sampling Requirements Record Sampling	[WAC 246-247-075(5), WAC 173-401-615(1)]:		

300 EP-329-01-S**EP-329-01-S**

329 BUILDING

Emission Unit ID: 366

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	2	2 in parallel, 1 Standby (3 total)
	HEPA	2	In series, (System includes up to 5 banks of 2 stages of HEPA filters in series, minimum of 1 bank of 2 testable filters in use)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 1 active Notice of Construction.**Project Title**

329 Building, Chemical Sciences Laboratory

Approval No.

AIR 95-205

Date Approved NOC_ID

2/24/1995

64

300 EP-331G-01-S**EP-331G-01-S**

331 Building

Emission Unit ID: 342

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

This Emission Unit has 1 active Notice of Construction.**Project Title**

Registration of Existing Stacks at the 331-G Building

Approval No.

RTAM

Date Approved NOC_ID

1/16/1998

252

Conditions (state only enforceable)

- 1) Unabated dose is 1.90E-08 mrem/year
- 2) Annual emissions estimates are based on engineering calculations; no monitoring because quantity too small to
- 3) Abated dose is 1.90E-10 mrem/year
- 4) Radionuclides of concern include 14C, 3H, 32P, and 35S (radioactive tracers).
- 5) A single stage HEPA filter is installed at each stack
- 6) Annual possession quantity limited to: Total 4.25E-03 Ci

300 EP-331G-02-S**EP-331G-02-S**

331 Building

Emission Unit ID: 343

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Registration of Existing Stacks at the 331-G Building	RTAM	1/16/1998	252

Conditions (state only enforceable)

- 1) Abated dose is 1.90E-10 mrem/year
- 2) Radionuclides of concern include 14C, 3H, 32P, and 35S (radioactive tracers).
- 3) Unabated dose is 1.90E-08 mrem/year
- 4) Annual possession quantity limited to: Total 4.25E-03 Ci
- 5) A single stage HEPA filter is installed at each stack
- 6) Annual emissions estimates are based on engineering calculations; no monitoring because quantity too small to

300 EP-331-02-S**EP-331-02-S (inactive)**

331 LIFE SCI LAB

Emission Unit ID: 509

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Portable Radon Research Facility	AIR 96-506	5/15/1996	158

Conditions (state only enforceable)

- 1) The potential to emit from the Radon Generating Facility must not, when added to another source term, affect the NESHAPS status of the emission unit without writing a new NOC to DOH and to the EPA
- 2) All controls, or equivalent, committed to in the original NOC are required. If changes are planned, approval must be sought from DOH

Project Title	Approval No.	Date Approved	NOC_ID
331 Building Radon Research Facility	AIR 95-803	8/8/1995	95

Conditions (state only enforceable)

- 1) Control Technology: 2 - high efficiency particulate air filters (2 in series); 3 fans (2 in parallel, 1 backup); Additional controls: in-line HEPA, dehumidifier, and charcoal beds
- 2) Process description: This project primarily focuses on radon exposures of animals and addresses the major biologic effects and factors influencing risks of indoor radon exposures. Both invitro and invivo experiments are performed using laboratory animals and cell lines. The radon generator contains approximately 1 Ci of a radium chloride solution, which will generate up to 130 uCi/minute of Rn-222. The radon is routed directly to HEPA filters and charcoal columns of the radon-holdup system. Exhaust from the radon holdup system is routed to the building exhaust that is HEPA filtered.
- 3) Stack measurement: Continuous measurement. Additional measurement: Radon
- 4) Potential-to-emit abated (total effective dose equivalent to the maximally exposed individual): 7.0 E-03 mrem/yr.

300 P-340DECON-001**340 Decon**

340 BUILDING

Emission Unit ID: 422

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Moisture separator	1	Serves the decon sump
	Fan	1	
	HEPA	2	In series, both HEPA filters are tested as a single unit
	Prefilter	1	3 in parallel, Change Room doesn't pass through prefilter

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 weeks/year

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

300 P-340BBLDG-001**340-B-BLDG (inactive)**

340 BUILDING

Emission Unit ID: 424

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Fan operates intermittently
	HEPA	1	2 in parallel (minimum of 1 active flow path providing 1 stage of HEPA filtration)
	Prefilter	1	In parallel (minimum of 1 active flow path providing 1 stage of HEPA filtration)

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) WAC 246-247-075[3]	monitoring not currently performed	4 weeks/year (inactive)	
Sampling Requirements Record Sample	[WAC 246-247-075(5), WAC 173-401-615(1)]:		

300 EP-3730-01-S**EP-3730-01-S**

3730 GAMMA IRRAD FAC

Emission Unit ID: 417

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	1	
	HEPA	2	In series

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 2 week sample/year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

300 EP-3020-01-S**EP-3020-01-S**

EMSL

Emission Unit ID: 307

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Fan	1
HEPA	1

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL
WAC 246-247-075[3] BETA

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Environmental Molecular Sciences Laboratory (EMSL)	Shortform	12/16/1997	248
Uranyl nitrate hexahydrate project	Approval		

Conditions (state only enforceable)

- 1) Unabated emissions will be reported annually using mass balance (engineering calculations)
- 2) No periodic confirmatory measurement is required.
- 3) Abated dose: 6.8E-09 mrem/yr to the MEI
- 4) The annual possession quantities of depleted uranium (uranyl nitrate hexahydrate) - [234U, 235U, and 238U] for each calendar year cannot be exceeded without approval from Health. [The estimated annual quantities are 6.48 nCi for Calendar Year (CY) 1997, 19.2 nCi for Fiscal Year (FY) 1998, and 19.2 nCi for FY 1999.]
- 5) The exhausted air from the evacuated cryostat chamber will be HEPA filtered and tied directly into the building exhaust of stack #4.
- 6) Unabated dose: 6.8E-07 mrem/yr to the MEI

Project Title	Approval No.	Date Approved	NOC_ID
Environmental Molecular Sciences Lab (EMSL) Construction	AIR 94-803	8/2/1994	41

Conditions (state only enforceable)

- 1) Potential-to-emit abated (total effective dose equivalent to the maximally exposed individual) 2.6 E-03 mrem/yr.
- 2) Stack Measurement - Periodic Confirmatory Measurements - 2 week sample/year
- 3) Control Technology 1 - high efficiency particulate air filter, 1- fan.

300 S-RCF-EX 002**RCF-2-EX**

Radiological counting facility
Emission Unit ID: 184

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
<hr/>			
	Fan	1	
<hr/>			
	HEPA	1	
<hr/>			

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93(b)(4)(i) & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA quarterly

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Relocating RCF from 100-N to 300 Area	AIR 00-407	5/4/2000	490

1. U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
2. These Conditions and Limitations must be proceduralized prior to starting the activities described in the revised Notice of Construction.
3. This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitute a revision of the Radioactive Air Emissions License.
4. If the department finds that the emission unit described in this NOC ,is not in compliance with the standards in WAC 246-247-040 during construction or during operation, it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
5. The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe any such testing (WAC 246-247-060(4)). Notification may be by phone, electronic mail or written correspondence.
6. This NOC approval includes the following activities which might be performed in the RCF which include sample preparation, evaporation of liquids, wet ball milling of soils and other solids, mounting of air filters and other smears. Sample preparation activities may be conducted in a HEPA filtered ventilated enclosure depending on the sample activity level or contaminates determined by field screening. All samples requiring invasive preparation techniques will be handled in the sample preparation room of the MO-432 Trailer, which is exhausted through the HEPA filtered emission unit RCF-2-EX that contains a HEPA filter.
7. The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the

department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).

8. The emission controls shall include a single HEPA filter in the exhaust duct of the MO-423 Trailer. The exhaust is then pulled through a fan and exits through a rigid duct. The flow rate shall be 600 to 650 CFM. The HEPA filter shall be efficiency tested annually or after modification or maintenance to the system that violates the integrity of the airflow. The HEPA filters shall be changed as necessary due to pressure gauge readings falling outside the operating range or with the failure of the annual efficiency test (WAC 246-247-075(3)).

9. The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).

10. The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.

11. The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).

12. The department may require an ALARACT demonstration at any time (WAC 246-247-080(I)).

13. All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).

14. All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).

15. If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph I), BARCT (paragraph 3) or ALARACT (paragraph 4) whichever is applicable, or any limitations included in this approval (paragraph 5).

16. When this project is completed, or operations cease, the facility shall notify the department and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).

17. Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).

18. This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced

inspections, as required by EPA (WAC 246-247-080(g)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.

19. The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).

20. This facility must maintain a log in an approved format for this activity or emission unit (WAC 246-247-080(7)).

21. The abated dose limit for this NOC shall not exceed 7.07E-07 mrem/yr. to the MEI.

22. Monitoring shall consist of periodic confirmatory monitoring. The samples shall be taken quarterly and sent for analysis.

400 P-437-002**437-1-61**

437 Maintenance and Storage (MASF)

Emission Unit ID: 399

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	Intermittent operation
	HEPA	1	16 Parallel flow paths, each path provides 1 prefilter minimum of 1 in operation; intermittent operation
	Prefilter	1	16 Parallel flow paths, each path provides 1 prefilter minimum of 1 in operation intermittent operation

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

400 P-437MN&ST-001**437-MN&ST**

437 Maintenance and Storage (MASF)

Emission Unit ID: 385

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
Contaminated Equipment Repair	HEPA	1	2 in parallel
Contaminated Equipment Repair	Prefilter	1	
Waste Tank 1 & 2 Vents	HEPA	1	1 stage with 2 parallel flowpaths
Radiological Waste Tank Room Ventilation	HEPA	1	
Radiological Waste Tank Room Ventilation	Prefilter	1	
Liquid Radioactive Waste Loadout Facility Ventilation	HEPA	1	
Liquid Radioactive Waste Loadout Facility Ventilation	Prefilter	1	
Decon 1 & 2	HEPA	1	2 parallel flow paths, minimum of one HEPA operational
Shipping Cask Maintenance and Decon Glove Box	HEPA	1	2 parallel flow paths, minimum of one HEPA operational
Shipping Cask Maintenance and Decon Glove Box	Prefilter	1	
	Fan	2	In parallel, serves all MN&ST, intermittent use

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & WAC 246-247-075[3]	Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	4 week sample/ year
Sampling Requirements Record Sample	[WAC 246-247-075(5), WAC 173-401-615(1)]:		

400 Sodium Storage Facility**FFTF-402-1**

FAST FLUX TEST FACILITY COMPLEX

Emission Unit ID: 398

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]
		TOTAL ALPHA TOTAL BETA	

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Construction and Operation of Sodium Storage Facility	AIR 95-204	2/24/1995	65

400 P-FFTF-CBEX-001**FFTF-CB-EX**

FAST FLUX TEST FACILITY COMPLEX

Emission Unit ID: 397

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
Access Control Area Process	Fan	2	2 in parallel, one leg has 2 in series, intermittent use
Access Control Area Process	HEPA	1	Emergency standby
Access Control Area Process Operations	Prefilter	1	Emergency standby
Bldg 405 Process Operations	Fan	2	In parallel (intermittent use)
Bldg 405 Process Operations	HEPA	1	Emergency standby
Bldg 405 Process Operations	Prefilter	1	Emergency standby

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA Tritium
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

400 P-FFTFHTTR-001**FFTF-HT-TR**

FAST FLUX TEST FACILITY COMPLEX

Emission Unit ID: 396

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

	Fan	2	In parallel, intermittent use
	Fan (Booster)	1	Emergency standby
	HEPA	1	Emergency standby
	Prefilter	1	Emergency standby

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:

Record Sample

400 P-FFTFRESB-001**FFTF-RE-SB**

FAST FLUX TEST FACILITY COMPLEX

Emission Unit ID: 395

Abatement Technology (state only enforceable)

Applicable Requirements: ALARACT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]
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	Fan	1	Intermittent use No other controls

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)]
	[WAC 173--401-615(1)]		[WAC 173-401-615(1)]

40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
FFTF Ion Exchange Resin Columns Changeout	AIR 97-1203	12/10/1997	246

600 S-6266-001**696-W-1**

Waste Sampling and Characterization Facility WSCF
Emission Unit ID: 62

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	2	In parallel
	HEPA	2	In parallel
	Prefilter	2	In parallel

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Waste Sampling & Characterization Facility	AIR 00-802	8/10/2000	451

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction before the specified activity is to begin. Copies of these procedures must be provided to the department before starting these activities.
- 3) This approval, with its Conditions and Limitations must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 4) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The U.S. DOE shall monitor these emission units as follows: 696-W-1 and 696-W-2 emission units shall be monitored periodically. The periodic sampling shall consist of a sample being drawn a minimum of two weeks per quarter. Periodic radiological surveys of swipes or surfaces associated with 600 J NONPOINT 033, J NONPOINT 023, 600 J NONPOINT 031, and 600 J NONPOINT 030 must be conducted to verify compliance.

- 7) The department reserves the right to conduct its own environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 8) The facility must be able to demonstrate that the workers associated with these emission units are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 9) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from these units (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above-cited regulation.
- 10) The department reserves the right to inspect and audit this unit during construction and operation including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)). Periodic inspections will occur.
- 11) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 12) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 13) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 14) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 15) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 16) The facility must maintain a log in an approved format by the department for the surveys and smears required in approval condition number six.
- 17) Records must be readily (promptly) available for these units. These records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 18) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 19) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 20) The Waste Sampling Characterization Facility is limited to the following process descriptions for emission unit.

* WSCF provides analytical services to support chemical and radiological analyses conducted on a variety of solid, liquid, and vapor media, as required by the Resource Conservation and Recovery Act (RCRA) of 1976, Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Safe Drinking Water Act of 1974, Toxic Substance Control Act of 1976, Clean Water Act of 1977, and the Clean Air Act of 1990 requirements.

WESF consists of the following:

* Analytical Laboratory Building (696-W-1) - Solid, liquid, and vapor samples contaminated with low levels of radioactive material are processed, on a bench-scale basis, in fume hoods or other controlled air spaces in the building. Evaporation and wet chemistry also are used to prepare samples for analysis. Wastewater drums are filled inside the laboratory building and transferred either to the solid waste storage building (described as follows) or other approved facilities on the Hanford Site, or the wastewater drums are moved to various locations with WSCF.

* Radiochemistry Laboratory (696-W-2) - This is a below grade counting room in the Analytical Laboratory Building with a separately controlled airspace within the building.

- * Environmental data including a computer center - This is a non-radiological building and will not be addressed further.
- * Environmental Sample Archive Building (600 J non-point 032) - This building provides for controlled storage, indexing, categorizing of low level contaminated samples. Storage is provided for up to 2,500 samples requiring refrigerated storage and up to 11,500 samples requiring ambient storage.
- * Mobile Laboratory Storage Facility (600 J non-point 031) - This structure houses up to five mobile laboratories and provides protection from adverse weather conditions for the instrumentation and computers inside the mobile laboratories. This area contains a calibration laboratory instrumentation used in the mobile laboratories, and a sample preparation area for adding chemical buffers and preservatives to sample containers. This building also provides for temporary storage of drums, or other waste packages contained with low levels of radioactive material. Less than 100 drums are stored at any one time.
- * Solid Waste Storage Building (600 J non-point 030) - This open-sided building provides for temporary storage of drums or other low-level waste packages. Less than 100 drums are stored at any one time.
- * Contaminated Liquid Waste Retention Vault (600 J non-point 033) - This consists of two 3,785-liter polyethylene tanks contained in a common concrete vault. The tanks are designed to receive low level inorganic and radiologically contaminated liquid waste or sample excess from the analytical laboratory. The liquid routinely is transferred to an approved disposal facility on the Hanford Site using the portable tanker described as follows. This building also provides for temporary storage of drums, or other waste packages contaminated with low levels of radioactive material. Less than 100 drums are stored at any one time.
- * Portable Tanker(s) used for Wastewater Transport - Wastewater drums containing liquid waste contaminated with low levels of radioactive material are stored temporarily at various locations within WSCF. In some cases, the contents of these drums are pumped into a portable tanker at the various locations for transport to other facilities. To accomplish the pumping, a small pump has its drop leg inserted into each drum through the bung hole or other opening, and flexible hose transfers the liquid to the tanker.
- * Sample Equipment Cleaning Facility - This facility includes a calibration and laboratory equipment room equipped with a fume hood for solvent cleaning of tools used for collecting samples from the field. This is a non-radiological facility and will not be addressed further.

21.) The radiological control technology requirements are as follows:

- * 696-W-1 shall have a pre-filter and a HEPA filter before entering the exhaust stack. The flow rate shall be kept in a range of 54,000 CFM plus or minus 10%. When the ventilation system exits the analytical laboratory building and divides into legs, each leg must consist of a damper, a pre-filter, a HEPA filter bank (4x3), a damper, and a fan. The pre-filter must be a high-density micro media with an average efficiency of 25 to 30 percent. The HEPA filter assembly housings must have bagout provisions. The pre-filter housing must be designed for ease of filter change without increased dust loading on the HEPA filters. Two 50% capacity exhaust fans are installed and operate with parallel under normal power.
- * 696-W-2 stack operates a ventilation system that splits into two legs. Each leg of the parallel system must consist of a damper, a pre-filter, a HEPA filter bank (4x3), and a damper. The installed filtration system provides a minimum of 99.95% collection efficiency. After the air passes through the parallel system, the legs join together and pass through the fan. The airflow is divided into two paths, with 10% of the airflow exhausting directly to the stack, and the other 90% of flow recycling back into the building. The damper and fan regulate the flow.
- * 600 J non-point 032 will control emissions by the structure itself.
- * 600 J non-point 031 will control emissions based on the design of the mobile laboratories, combined with minimization of any indoor contamination, in accordance with established radiation control procedures.

- * 600 J non-point 030 will control emissions by controlling the waste packages. Minimize the external contamination in accordance with established radiation control procedures.
- * 600 J non-point 033 will control emissions by having a passive vent HEPA type high efficiency filter on each tank.
- * 600 J non-point portable tanker source will control emissions by passively venting the portable tanker.

21) The annual possession quantity for each building is as follows:

- * 696-W-1 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 696-W-2 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 600 J non-point 032 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 600 J non-point 031 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 600 J non-point 030 the annual possession quantity for this emission unit must abide by the vented container Notice of Construction.

22) The abated and unabated emission limits are as follows:

- * 696-W-1 Stack:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 1.7 E-7 Ci/yr Pu-239, 3.4 E-6 Ci/yr Sr-90
- * 696-W-2 Stack:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 1.7 E-7 Ci/yr Pu-239, 3.4 E-6 Ci/yr Sr-90
- * 600 J Non-Point 032:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-6 Ci/yr Pu-239, 6.8 E-5 Ci/yr Sr-90
- * 600 J Non-Point 031:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-7 Ci/yr Pu-239, 6.8 E-6 Ci/yr Sr-90
- * 600 J Non-Point 033:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-6 Ci/yr Pu-239, 6.8 E-5 Ci/yr Sr-90
- * 600 J Non-Point Source, Portable Tanker:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

23) The annual possession quantity of plutonium and strontium are considered conservative and noted that these radionuclides representative types of alpha and beta radiation that this facility expects to handle. The facility needs to verify annually that plutonium and strontium are the most conservative radionuclides this facility handles.

600 S-6266-002**696-W-2**

Waste Sampling and Characterization Facility WSCF
Emission Unit ID: 63

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology [WAC 246-247-010(4)] [WAC 246-247-040(4)]	Required Number of Units [WAC 246-247-010(4)] [WAC 246-247-060(5)]	Additional Description/Conditions [WAC 246-247-010] [WAC 246-247-040(4)] [WAC 246-247-060(5)]
	Fan	1	An additional standby fan recirculates the air flow back to Bldg. 6266 or can vent it to the atmosphere.
	HEPA	2	In parallel
	Prefilter	2	In parallel

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure [WAC 246-247-040(5)] [WAC 173--401-615(1)]	Radionuclides Requiring Measurement [WAC 173-401-615(1)]	Sampling Frequency [WAC 246-247-075(1)] [WAC 173-401-615(1)]
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40 CFR 61.93[b][4][i] & Appendix B, Method 114(3) TOTAL ALPHA TOTAL BETA 4 week sample/ year
WAC 246-247-075[3]

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Record Sample

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Waste Sampling & Characterization Facility	AIR 00-802	8/10/2000	451

Conditions (state only enforceable)

- 1) This approval, with its Conditions and Limitations must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 2) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 3) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 4) The U.S. DOE shall monitor these emission units as follows: 696-W-1 and 696-W-2 emission units shall be monitored periodically. The periodic sampling shall consist of a sample being drawn a minimum of two weeks per quarter. Periodic radiological surveys of swipes or surfaces associated with 600 J NONPOINT 033, J NONPOINT 023, 600 J NONPOINT 031, and 600 J NONPOINT 030 must be conducted to verify compliance.
- 5) The department reserves the right to conduct its own environmental monitoring or other testing, as required around

this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).

- 6) The facility must be able to demonstrate that the workers associated with these emission units are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 7) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from these units (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above-cited regulation.
- 8) The department reserves the right to inspect and audit this unit during construction and operation including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)). Periodic inspections will occur.
- 9) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 10) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 11) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 12) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 13) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 14) The facility must maintain a log in an approved format by the department for the surveys and smears required in approval condition number six.
- 15) Records must be readily (promptly) available for these units. These records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 16) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 17) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 18) The Waste Sampling Characterization Facility is limited to the following process descriptions for emission unit.

* WSCF provides analytical services to support chemical and radiological analyses conducted on a variety of solid, liquid, and vapor media, as required by the Resource Conservation and Recovery Act (RCRA) of 1976, Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Safe Drinking Water Act of 1974, Toxic Substance Control Act of 1976, Clean Water Act of 1977, and the Clean Air Act of 1990 requirements.

WESF consists of the following:

* Analytical Laboratory Building (696-W-1) - Solid, liquid, and vapor samples contaminated with low levels of radioactive material are processed, on a bench-scale basis, in fume hoods or other controlled air spaces in the building. Evaporation and wet chemistry also are used to prepare samples for analysis. Wastewater drums are filled inside the laboratory building and transferred either to the solid waste storage building (described as follows) or other approved facilities on the Hanford Site, or the wastewater drums are moved to various locations with WSCF.

* Radiochemistry Laboratory (696-W-2) - This is a below grade counting room in the Analytical Laboratory

Building with a separately controlled airspace within the building.

* Environmental data including a computer center - This is a non-radiological building and will not be addressed further.

* Environmental Sample Archive Building (600 J non-point 032) - This building provides for controlled storage, indexing, categorizing of low level contaminated samples. Storage is provided for up to 2,500 samples requiring refrigerated storage and up to 11,500 samples requiring ambient storage.

* Mobile Laboratory Storage Facility (600 J non-point 031) - This structure houses up to five mobile laboratories and provides protection from adverse weather conditions for the instrumentation and computers inside the mobile laboratories. This area contains a calibration laboratory instrumentation used in the mobile laboratories, and a sample preparation area for adding chemical buffers and preservatives to sample containers. This building also provides for temporary storage of drums, or other waste packages contained with low levels of radioactive material. Less than 100 drums are stored at any one time.

* Solid Waste Storage Building (600 J non-point 030) - This open-sided building provides for temporary storage of drums or other low-level waste packages. Less than 100 drums are stored at any one time.

* Contaminated Liquid Waste Retention Vault (600 J non-point 033) - This consists of two 3,785-liter polyethylene tanks contained in a common concrete vault. The tanks are designed to receive low level inorganic and radiologically contaminated liquid waste or sample excess from the analytical laboratory. The liquid routinely is transferred to an approved disposal facility on the Hanford Site using the portable tanker described as follows. This building also provides for temporary storage of drums, or other waste packages contaminated with low levels of radioactive material. Less than 100 drums are stored at any one time.

* Portable Tanker(s) used for Wastewater Transport - Wastewater drums containing liquid waste contaminated with low levels of radioactive material are stored temporarily at various locations within WSCF. In some cases, the contents of these drums are pumped into a portable tanker at the various locations for transport to other facilities. To accomplish the pumping, a small pump has its drop leg inserted into each drum through the bung hole or other opening, and flexible hose transfers the liquid to the tanker.

* Sample Equipment Cleaning Facility - This facility includes a calibration and laboratory equipment room equipped with a fume hood for solvent cleaning of tools used for collecting samples from the field. This is a non-radiological facility and will not be addressed further.

19) The radiological control technology requirements are as follows:

* 696-W-1 shall have a pre-filter and a HEPA filter before entering the exhaust stack. The flow rate shall be kept in a range of 54,000 CFM plus or minus 10%. When the ventilation system exits the analytical laboratory building and divides into legs, each leg must consist of a damper, a pre-filter, a HEPA filter bank (4x3), a damper, and a fan. The pre-filter must be a high-density micro media with an average efficiency of 25 to 30 percent. The HEPA filter assembly housings must have bagout provisions. The pre-filter housing must be designed for ease of filter change without increased dust loading on the HEPA filters. Two 50% capacity exhaust fans are installed and operate with parallel under normal power.

* 696-W-2 stack operates a ventilation system that splits into two legs. Each leg of the parallel system must consist of a damper, a pre-filter, a HEPA filter bank (4x3), and a damper. The installed filtration system provides a minimum of 99.95% collection efficiency. After the air passes through the parallel system, the legs join together and pass through the fan. The airflow is divided into two paths, with 10% of the airflow exhausting directly to the stack, and the other 90% of flow recycling back into the building. The damper and fan regulate the flow.

* 600 J non-point 032 will control emissions by the structure itself.

- * 600 J non-point 031 will control emissions based on the design of the mobile laboratories, combined with minimization of any indoor contamination, in accordance with established radiation control procedures.
 - * 600 J non-point 030 will control emissions by controlling the waste packages. Minimize the external contamination in accordance with established radiation control procedures.
 - * 600 J non-point 033 will control emissions by having a passive vent HEPA type high efficiency filter on each tank.
- 600 J non-point portable tanker source will control emissions by passively venting the portable tanker.

20) The annual possession quantity for each building is as follows:

- * 696-W-1 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 696-W-2 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 600 J non-point 032 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 600 J non-point 031 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.
- * 600 J non-point 030 the annual possession quantity for this emission unit must abide by the vented container Notice of Construction.

21) The abated and unabated emission limits are as follows:

- | | |
|--|--|
| <ul style="list-style-type: none"> * 696-W-1 Stack:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 1.7 E-7 Ci/yr Pu-239, 3.4 E-6 Ci/yr Sr-90 * 696-W-2 Stack:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 1.7 E-7 Ci/yr Pu-239, 3.4 E-6 Ci/yr Sr-90 * 600 J Non-Point 032:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-6 Ci/yr Pu-239, 6.8 E-5 Ci/yr Sr-90 | <ul style="list-style-type: none"> * 600 J Non-Point 031:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-7 Ci/yr Pu-239, 6.8 E-6 Ci/yr Sr-90 * 600 J Non-Point 033:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-6 Ci/yr Pu-239, 6.8 E-5 Ci/yr Sr-90 * 600 J Non-Point Source, Portable Tanker:
Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90
Abated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90 |
|--|--|

- 22) The annual possession quantity of plutonium and strontium are considered conservative and noted that these radionuclides representative types of alpha and beta radiation that this facility expects to handle. The facility needs to verify annually that plutonium and strontium are the most conservative radionuclides this facility handles.
- 23) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 24) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction before the specified activity is to begin. Copies of these procedures must be provided to the department before starting these activities.

Hanford Sitewide W-PORTEX 021**Guzzler use on the Hanford Site**

GUZZLER

Emission Unit ID: 476

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Use of the Guzzler Vacuum Excavation System for Radiologically Limited Activities on the Hanford Site.	AIR 98-1215	12/18/1998	328

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) This approval, with its Conditions and Limitations, constitutes and amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)). **Obsolete at permit issuance.**
- 4) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 246-247-040 during construction as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems (if conducted). The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) U.S. DOE shall monitor this project or emission unit as follows: In addition to the surveys described in this NOC periodic confirmatory measurements are required. This may include but not limited to NDA testing of the HEPA filters when the HEPA filters are replaced and annually screening the HEPA filtration system using gamma spectroscopy (WAC 246-247-075(8)).

- 7) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 8) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 9) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in, or equivalent to, those listed in the above cited regulation.
- 10) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 11) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 12) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 13) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 14) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5) (WAC 246-247-080(5)).
- 15) When the Guzzler ceases operations in conjunction with this NOC, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(6)).
- 16) The facility must maintain a log in an approved format for this activity or emission unit (WAC 246-247-080(7)).
- 17) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 18) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors immediately, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 19) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).

- 20) The Guzzler is a self contained vacuum type equipment system allowing soil to be slowly dumped from the collection tank by controlling the raising and lowering speed of the tank. Soil from contaminated areas will be cleaned and excavated using the Guzzler. In some cases, however, an area may be physically inaccessible for the regulated Guzzler. In those instances, the cleaning or excavation, as well as any backfilling activities will be completed using backhoes, loaders, compactors with plates, and/or picks and shovels, as appropriate.
- 21) The Guzzler filtration system must consist of a collection tank and plate separator device, cyclone separators; baghouse systems (99% efficient) with 72 bags each, equipped with a cyclic bag cleaning air blow-back system; micro-strainer device; and a HEPA filter system consisting of three in place tested HEPA filters in parallel (99.95% efficient system). The air lance system located on the Guzzler must be utilized when the system is operating. During the use of the Guzzler and soil excavation the hand held water mister must be used to control the generation of dust. During cleaning or excavation, the soil will be surveyed by Health Physicist Technicians (HPTs) over every linear and vertical foot prior to excavation or cleaning.
- 22) The following are the allowable radionuclides: Sr-90, Cs-137, Cs-134, Th-232, U-234, U-235, U-238, Eu-154, Eu-155, Ru-106, Sn-113, Sb-125, Am-241, Pu-238, Pu-239, Pu-240, and Pu-241. If any other radionuclides are suspected or verified through soil analysis the department must be notified.
- 23) The annual possession quantities are not to exceed the limits for each area described in enclosure 3 of this NOC.
- 24) The following are the annual emission limits for the NOC: 100 AREA For Guzzler Cleaning/Excavation: 1.44E-3mrem Sr-90 3.4E-2mrem Am-241 For Backfilling: 1.44E-6mrem Sr-90 3.45E-5mrem Am-241 200 AREA For Guzzler Cleaning/Excavation: 9.81E-4mrem Sr-90 2.34E-2mrem Am-241 For Backfilling: 9.81E-7mrem Sr-90 2.34E-5mrem Am-241 300 AREA For Guzzler Cleaning/Excavation: 1.95E-2mrem Sr-90 8.3E-3mrem U-234 For Backfilling: 1.95E-5mrem Sr-90 8.3E-6mrem U-234 400 AREA For Guzzler Cleaning/Excavation: 4.25E-4mrem Sr-90 8.34E-3mrem Pu-239 For Backfilling: 4.25E-7mrem Sr-90 8.34E-6mrem Pu-239
- 25) All soil excavation activities operating under this NOC must cease operations when sustained wind conditions reach or exceed 20 miles per hour.

Project Title	Approval No.	Date Approved	NOC_ID
Guzzler Excavation and Backfilling Activities in Support of the 200 East Area A Farm Complex	Short Form NOC	12/23/1997	250

Conditions (state only enforceable)

- 1) HPT field surveys every vertical and linear foot of excavation.
- 2) Aerosol testing and NDA of Guzzler HEPA filters, annually.

Hanford Sitewide W-PORTEX 007**HEPA vacuums**

PTREAU

Emission Unit ID: 455

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]

This Emission Unit has 3 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Clarification for HVU NOC Approval Conditions (AIR 99-1103), HEPA Filtered Vacuum Radioactive Air Emission Units, Revision 1	RTAM	2/15/2000	425

Conditions (state only enforceable)

- 1) Monitoring requirements are as follows: In the event that the exhauster is used on different emission units Department of Health reserves the right to request a nondestructive analysis / assay (NDA) after each exhaust job assignment (WAC 246-247-075(3)). The monitoring includes: emission estimates to include the methodology, all monitoring measurement results taken during the operation, copy of all logs kept on site and the summary submitted to the department on June 30th. One of the following methods may be chosen for actual emissions reporting, results of smears on the exhaust ports, maximum contamination level encountered or analysis results, area cleaned, air emission source constituents if other than plutonium 239 and strontium 90 potential radionuclide releases.
- 2) The abated dose limit for this NOC shall not exceed 2.5 E-05 mrem/yr to the MEI for each facility as described in the NOC. The unabated dose limit calculated for each facility is 4.97E-02 mrem/yr.
- 3) The approved process is as follows: The HVU's fall into two categories. The first category is the use if the HVU's for the reduction of smearable contamination (including the special cases listed in Appendix C) and the other is to reduce fixed contamination. Soil matrices are excluded from this NOC.
- 4) The required possession quantity is APQ's calculated for a maximum annual combined use of HVU's by an individual facility or activity. APQ's are based on hypothetical worst-case source terms that all HVU's at an individual facility combined could handle during a year and remain below 0.05 mrem per year unabated dose.

Project Title	Approval No.	Date Approved	NOC_ID
HEPA Filtered Vacuum Radioactive Air Emission Units, Revision 1	AIR 99-1103	11/4/1999	410

Conditions (state only enforceable)

- 1) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emission control, monitoring, or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).

- 2) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in this NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 3) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 4) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 5) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 6) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 7) The required controls are as described as follows: The HVU's must be field tested annually, requiring an aerosol test/efficiency test or equivalent pass/fail criteria of 95.95% for particles of 0.3 micron median diameter. In addition, the HVU's filtration systems are to be tested whenever the configuration is modified and/or the filtration system is opened. A smear of the exhaust port shall be conducted before and after each use of HVU's. If the exhaust port smear is positive, the unit shall be tagged and removed from service.
- 8) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 9) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 10) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance to have reasonable time to meet the requirements.
- 11) The department retains the right to conduct its own stack sampling, environmental monitoring, or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 12) The facility must be able to demonstrate that workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 13) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 14) The Facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulations.
- 15) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 16) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 17) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).

Project Title

HEPA vacuums dedicated for use in routine cleanup

Approval No.

ERC Team
Meeting
Minutes, CCN 053924

Date Approved

10/24/1997

NOC_ID

239

Conditions (state only enforceable)

- 1) Logs must be kept up to date, and are auditable.

Hanford Sitewide PTREAU**type-1, type-2, type-3**

PTREAU

Emission Unit ID: 447

Abatement Technology (state only enforceable)

Applicable Requirements: BARCT

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

type-2 and type-3	Charcoal filter	1	
type-2 and type-3	HEPA	1	
type-1	HEPA	1	

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & WAC 246-247-075[3]	Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	Annual, unless otherwise specified by the NOC.

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Clarification for PTRAEU NOC Approval Conditions (AIR 99-1102)	RTAM	2/15/2000	426

Conditions (state only enforceable)

- 1) A copy of the log will be submitted annually to the WDOH on June 30. The June submittals will consist of PTRAEU operations from January through December for the previous year. The estimated emissions from the units will be reviewed as directed by DOE/RL and summarized in the annual radioactive air emissions report for the

Project Title	Approval No.	Date Approved	NOC_ID
Portable/Temporary Radionuclide Airborne Emissions Units (PTRAEU), Revision 2	AIR 99-1102	11/4/1999	411

Conditions (state only enforceable)

- 1) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 2) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 3) Ductwork, seams, and potential release locations on the portable exhausters are to be monitored on a routine basis for potential radionuclide releases and noted on the log sheets (e.g., post-survey results negative). These routine checks should be kept as retrievable records.
- 4) This approval, with its conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).

- 5) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 6) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 7) Monitoring requirements are as follows: In the event that the exhauster is used on different emission units Department of Health reserves the right to request a nondestructive analysis / assay (NDA) after each exhaust job assignment (WAC 246-247-075(3)). The monitoring includes: emission estimates to include the methodology, all monitoring measurement results taken during the operation, copy of all logs submitted to the department on June 30th. One of the following methods may be chosen for actual emissions reporting, nondestructive assay, record sampler, or continuous air monitoring, whichever is more appropriate.
- 8) The department retains the right to conduct its own stack sampling, environmental monitoring, or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 9) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 10) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 11) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emission control, monitoring, or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 12) The facility must be able to demonstrate that workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 13) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in this NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 14) The abated dose limit for this NOC shall not exceed 1.91E-05 mrem/yr to the MEI.
- 15) The approved process is limited to the following:
 1. Type I units that are vacuums and are to be used as ventilation units. If the vacuum is used in any other manner WDOH must approve its use under a separate application before the activity commences.
 2. Type II units decrease the chance of unintentional cross contamination and are sample preparation units. These units enable the removal of material from core barrels, homogenize the material, and fill prescribed sample containers for onsite and offsite analysis.
 3. Type III units are used for sample screening and analysis and provide preliminary screening of samples to determine potential problem areas. They also screen samples requiring further in depth analysis. The source of radionuclides handled by the mobile sample preparation facilities and mobile screening and analysis facilities is contaminated soils and/or liquids extracted from cribs, ditches, ponds, burial sites, and other such areas with surficial soil contamination. An additional source of radionuclides is the preparation of radioactive standards to be used for instrument calibration.
- 16) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval (paragraph 5).
- 17) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 18) The required possession quantity is RHL's calculated for a daily use because many of the activities are of short duration. In calculating the RHL's, 0.1 mrem per year criteria will be used as a beginning point and the source term, which can be handled each day, is back calculated
- 19) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the

inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance to have reasonable time to meet the requirements.

20) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).

21) The required controls are as described as follows:

Type I units shall be equipped with a HEPA Filter. Some also will be equipped with an additional HEPA Filter in series, charcoal absorbers, or moisture separators.

Type II and Type III have an exhaust system consisting of a single stage HEPA filter followed by an activated charcoal absorber.

22) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).

Hanford Sitewide Vented Containers

Vented Containers

PTREAU

Emission Unit ID: 448

Abatement Technology (state only enforceable)

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

BARCT [WAC 246-247-040(3)]

Zone or Area	Description of Abatement Technology	Required Number of Units	Additional Description/Conditions
	[WAC 246-247-010(4)]	[WAC 246-247-010(4)]	[WAC 246-247-010]
	[WAC 246-247-040(4)]	[WAC 246-247-060(5)]	[WAC 246-247-040(4)] [WAC 246-247-060(5)]

Monitoring Requirements (state and federally enforceable)

Federal and State Regulatory Requirements	Monitoring and Testing Procedure	Radionuclides Requiring Measurement	Sampling Frequency
	[WAC 246-247-040(5)] [WAC 173--401-615(1)]	[WAC 173-401-615(1)]	[WAC 246-247-075(1)] [WAC 173-401-615(1)]
40 CFR 61.93[b][4][i] & WAC 246-247-075[3]	Appendix B, Method 114(3)	TOTAL ALPHA TOTAL BETA	Air - every 2 weeks continuous/deposition - annually

Sampling Requirements [WAC 246-247-075(5), WAC 173-401-615(1)]:
Environment Sampling

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Sitewide Vented Container Storage	NOC	9/19/1996	188

Conditions (state only enforceable)

- 1) Containers other than drums are also approved if they meet the conditions of this NOC.
- 2) Establishes a categorical As Low As Reasonably Achievable Control Technology (ALARACT) demonstration for existing Hanford Site vented containers.
- 3) NucFil(TM) filter or an equivalent filter shall be BARCT, and ALARACT. Vent clips are accepted as ALARACT for existing systems to date, however when conditions require repackaging vent clips shall be replaced by NucFil(TM) or equivalent filters.
- 4) The vented container Lat and Longitude coordinates (46 degrees 22' 13.8", 119 degrees 16' 12.3") refer to the location resulting in the highest impact to the MEI.
- 5) Establishes a categorical Best Available Radionuclide Control Technology (BARCT) demonstration for all future Hanford Site vented containers (i.e. up to 10,000 vented container units (UVC) based on total unabated emissions and 27,000,000 UVC based on total abated emissions offering less than 0.1mrem/yr to the MEI).
- 6) These containers are used for storing mixed and or radioactive waste generated on or off Hanford Site.
- 7) WDOH accepts vent clips as ALARACT since they are no longer installed.
- 8) Pu239/240 equivalent curies (PE-Ci) represents the radionuclide of concern as discussed in the 'Hanford Site Solid Waste Acceptance Criteria, WHC-EP-0063, 1994, Westinghouse Hanford Company, Richland Washington.
- 9) The estimated unabated and abated TEDE to the MEI per container is 1.5 E-5 and 5.1 E-9 mrem/yr, respectively.
- 10) The annual possession quantity for each vented container varies. The maximum quantity per container is based on preventing nuclear criticality, which is managed by: (i)controlling the amount of fissionable material in each container, (ii)container spacing requirements, (iii)container segregation. The annual possession quantity for this categorical approval is accepted due to the variability of waste types.

Table 1.3 Requirements for non-point sources

State only enforceable applicable abatement technology requirements

ALARACT [WAC 246-247-040(4)] or BARCT [WAC 246-247-040(3)]
[WAC 246-247-010(4)]
[WAC 246-247-040(5)]

State and federally enforceable applicable monitoring requirements

40 CFR 61.93(b)(4)(I) & WAC 246-247-075(3)

NON-POINT EMISSION UNITS

200 diffuse/fugitive emissions

200 Area Emissions

Emission Unit ID: 486

This Emission Unit has 5 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Waste transfer from the Vit Plant to LERF and TEDF under project W-519.	AIR 00-706	7/24/2000	487

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this NOC (WAC 246-247-060(5)).
- 2) These conditions and limitations must be proceduralized prior to the implementation of this NOC.
- 3) This approval with its conditions and Limitations must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 4) The licensed emissions allowed by this approval are only those associated with the construction activities related to the installation of the Liquid Effluent Transfer System (LETS) and its tie-ins to the Liquid Effluent Retention Facility (LERF) and the PC5000 waste transfer line.
- 5) This license does not provide the operating approval that shall be required prior to use of the LETS by the LERF and the Treatment and Immobilization Facility (Vitrification Plant). The LETS shall be dependent on the operation of the Vitrification Plant and its use shall be addressed in the permitting documentation for this facility. As there are no emission points along the transfer piping, the potential new emissions shall add potential to emit to LERF, which shall also require modification approval prior to its use of LETS. The LETS shall also provide tie-in to waste water feed line to the 200 Area Treated Effluent Disposal Facility (TEDF), from the Vitrification Plant. This NOC does not request that TEDF be a registered emission unit, nor to be allowed to receive radioactive potential-to-emit. This condition shall be associated with the LEF and the Vitrification Plant for the Hanford Air Operating Permit until the appropriate permitting revisions and approvals for the operation of the LETS are obtained (WAC 246-247-060(1)(e) and (2)(c)).
- 6) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction, the department reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 7) The department reserves the right to inspect and audit this unit during construction, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 8) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 9) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 10) For this activity the estimated emission levels are too low to measure using conventional stack sampling methods. The emissions of this NOC are based on and calculated from a maximum threshold contamination levels and a

maximum volume of contaminated soil. For the reporting requirements of WAC 246-247-080(3), all results of the thus low emissions, shall be reported annually in the Hanford Site Air Emissions Report.

- 11) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any Conditions or Limitations in this NOC approval or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards(WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard(paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval (paragraph 5).
- 12) The facility must maintain a log in an approved format for this activity to track the total volume of contaminated soil (to ensure that the contaminated soil volumes in conjunction with their respective contamination levels do not exceed the approved estimated potential-to-emit). This amount is an important factor in the approved method to verify the low emissions for this activity.
- 13) All records required by WAC 246-247 must be retrievable within 24 hours of the request, and must be stored onsite. All records shall be maintained for a minimum of five years (WAC 246-247-080(8)).
- 14) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 15) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
- 16) Construction and tie-in condition or limitation: Controlled use of the Guzzler Vacuum Excavation System for radiologically activities shall meet the conditions, controls, monitoring requirements and limitations of "Guzzler Vacuum Excavation System for Radiologically Limited Activities on the Hanford Site" approval letter # AIR 98-1215, dated December 18, 1998; or the latest approved version for this emission unit.
- 17) Construction and tie-in condition or limitation: After backfilling, the area shall be surveyed to verify that radiological contamination levels on the soil surface are less than 5,000 dpm/100 cm² beta-gamma and less than 100 dpm/100 cm² alpha. If contamination is present on the surface above these levels, it will be removed and containerized for disposal or covered or fixed to provide containment of the contamination.
- 18) Construction and tie-in condition or limitation: As the potential unabated offsite dose associated with this activity is calculated to be less than 0.1 millirem per year, in accordance with 40 CFR 61, Subpart H, periodic confirmatory measurements (PCM) shall be made to verify emissions. The PCM shall consist of the radiological soil contamination surveys. Soil surveys for radioactive contamination will be performed for beta/gamma. If beta/gamma contamination is detected, surveys for alpha contamination will also be performed. This method of PCM is intended to demonstrate that compliance can be maintained administratively as the performed surveys shall limit activities with a potential-to-emit below the maximum threshold contamination work levels. As the emission estimates are based and calculated from the maximum threshold contamination levels and the maximum volume of contaminated soil, the true emissions shall inherently be below the estimated emissions.
- 19) Construction and tie-in condition or limitation: During tie-in activities, if removable contamination levels around the flange after reduction efforts are greater than 10,000 dpm/100 cm² beta gamma and 200 dpm/100 cm² alpha, the work shall be performed in a glove bag.
- 20) Construction and tie-in condition or limitation: If a Portable/Temporary Radioactive Air Emission Unit (PTRAEU) is used during tie-in activities, the conditions, controls, monitoring requirements and limitations of (PTRAEU), Revision 2" approval letter # AIR 99-1102, dated November 4, 1999, shall be required; or the latest approved version for this emission unit.
- 21) Construction and tie-in condition or limitation: If a HEPA Filtered Vacuum Radioactive Air Emission Unit (HEPA VAC) is used during tie-in activities, the conditions, controls, monitoring requirements and limitations of the HEPA VAC, Revision 1," approval letter # AIR 99-1103, dated November 4, 1999, shall be required; or the latest approved version for this emission unit.
- 22) Construction and tie-in condition or limitation: The following radionuclides are allowed by this approval and may also contribute to the gross alpha and gross beta-gamma measurements (conservatively represented by Sr-90 and Am-241 estimate): H-3, C-14, Co-60, Se-79, Sr-90, Nb-94, Te-99, I-129, Cs-134, Cs-137, Ce-144, Eu-155,

Ra-226, U-234, Np-237, Pu-238, Pu-239, Pu-241, Am-241, Cm-244. If any other radionuclides are suspected or verified through soil analysis the department must be notified.

- 23) Construction and tie-in condition or limitation: Source term contribution is limited from the Guzzler at: 1.92 E-01 curies Sr-90, and 1.28 E-03 curies Am-241. Source term contribution from conventional excavation is limited to : 6.3 E-02 curies Sr-90, and 1.46 E-03 curies Am-241. Total source term contribution is limited to 2.55 E-01 curies Sr-90 and 2.74 E-03 curies Am-241.
- 24) Construction and tie-in condition or limitation: The abated dose limit for this NOC shall not exceed 5.1 E-02 mrem/yr to the MEI, 15,990 meters east-southeast at Energy Northwest (CAP88 run for a new MEI location) and 6.37 E-02 mrem/yr to the MEI at 20,000 meters east-southeast (using dose conversion factors HNF-3602, Volume 1: Calculating Potential to Emit releases and Doses for FEMPs and NOCs, July 1999, J.S. Hill, P.D. Rittman, Fluor Daniel Hanford, Inc., Richland, Washington).
- 25) Construction and tie-in condition or limitation: Suppressants such as water, fixatives, covers, or windscreens shall be used as necessary, including at the end of each shift or when sustained or predicted winds are >20 mph.
- 26) Construction and tie-in condition or limitation: Work with glove bags shall not be performed if sustained wind speeds are greater than 30 mph.
- 27) Construction and tie-in condition or limitation: Excavation activities will be stopped if evenly distributed contamination with detection readings greater than 500,000 dpm/100 cm² beta-gamma or greater than 200 dpm/100 cm² above background alpha is encountered. Excavation will not continue until a review of the work and encountered conditions has been performed and it has been determined that no threat to worker safety or the environment exists, or until proper controls (i.e., removal and disposal, water, fixatives, covers, etc.) have been put in place to mitigate any further threat; and the WDOH has been contacted and briefed of the situation.
- 28) Construction and tie-in condition or limitation: When this project is completed the facility shall notify the department via a report of closure whether or not any potential for airborne release occurred. When the operation of the final use of the Guzzler, PTRAEU, or a HEPA VAC, ceases in conjunction with this NOC, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred via any of these categorical emission units (WAC 246-247-080(6)).

Project Title	Approval No.	Date Approved	NOC_ID
NOC Revision to AIR 00-604 Categorical Tank Farm Facility Entry and Surveillance	NOC revision to AIR 00-604	7/12/2000	491

Conditions (state only enforceable)

- 1) The facility will maintain a log of all work packages, which are used for building access under this NOC (AIR
- 2) In addition to those approved activities referenced in the AIR 00-604 conditions, the following activities are also approved:
 - * Electrical equipment inspections may be performed to assure that power has been shut off from facilities or to assure that equipment is in safe operation.
 - * Housekeeping will be performed to assure that a facility is in a safe condition that would not threaten workers, safety, or the environment. Housekeeping may include collecting containers or miscellaneous debris for proper disposal.
- 3) The annual possession quantity for each facility entry may not exceed 2.2E-9 Ci Alpha, 3.3E-5 Ci Beta and 2.38E-7 Ci from cesium. If sample results after entry show that these values have been exceeded, WDOH is to be notified within 24 hours of receipt of the sample results.
- 4) Facility personnel will determine APQ tracking methodology as required to comply with the AIR 00-604 approval conditions. APQ will be tracked on the same log sheet used to comply with WAC 246-247-080(7) as specified in the AIR 00-604 approval conditions.

Project Title	Approval No.	Date Approved	NOC_ID
Vapor Sampling of Miscellaneous Underground Units with No Known Path of Ventilation	NOC Revision Form	6/21/2000	469

Conditions (state only enforceable)enforceable)

- 1) Vapor space sampling will follow the controls identified in ALARACT 8, with the exception of bulleted items 4 and 5 in Section 2 of the ALARACT. Bulleted item 4 will not be performed unless field evaluation determines that a

riser adapter is necessary to minimize potential exposure to the environment. Installation of an adapter is normally not necessary due to the riser configuration and the short duration required for vapor sampling miscellaneous units. Bulleted item 5 will not be performed because the miscellaneous units are not ventilated.

Project Title	Approval No.	Date Approved	NOC_ID
Categorical Tank Farm Facility Entry and Surveillance	AIR 00-604	6/21/2000	486

Conditions (state only enforceable)enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emissions License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 4) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC, or during operation it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission units, emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The U.S. DOE shall monitor this project or emission unit as follows: The Department of Health grants approval for the use of the Radiological Containment Matrix Procedure HNF-IP-0842 VII, Radiological Control 3.1. This approval is only granted for this specific NOC within the tank farms and may not be applied to any other NOC without prior approval from the department.
- 7) The department retains the right to conduct its own environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 8) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 9) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above-cited regulation.
- 10) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 11) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 12) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 13) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 14) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 15) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 16) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 17) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known

to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.

- 18) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 19) The facilities covered under this NOC will be entered through a door or other existing access location to perform these activities identified below.

- * Accessing Facilities - Accessing Facilities will be performed in accordance with the appropriate control outlined in the approved HNF-IP-0842, Volume VII, Radiological Control Matrix

- * Inspections/Surveillance - Visual inspections will be conducted to evaluate facilities' integrity for future decommissioning work, to assure that utilities have been shut off, and/or identification of any environmental, radiological, or safety concerns.

- * Photographing/Videotaping - Photographing/videotaping are performed to assist personnel in recording a facility's contents and to obtain knowledge of a facility and its content.

- * Sampling/Surveys - Swipes, smears, air sampling, and other surveys may be performed to characterize contamination levels present in the facility. These activities may be performed on containers, walls, floors, piping, pumps, valves, motors, and cover blocks associated with the facility.

- * Removal of access port shield plugs may be performed to allow installation of video equipment and/or to perform radiological surveys.

- 20) The radiological control technology for all entries conducted under this NOC must follow the containment matrix HNF-IP-0842, Volume VII, Radiological Control.
- 21) The following radionuclides are allowed under this NOC: 3H, 14C, 59Ni, 60Co, 63Ni, 79Sc, 90Sr, 90Y, 93Zr, 93mNb, 99Tc, 106Ru, 113mCd, 125Sb, 126Sn, 129I, 134Cs, 137Cs, 137mBa, 151Sm, 152Eu, 154Eu, 155Eu, 227Ac, 228Ra, 229Th, 231Pa, 232Th, 232U, 233U, 234U, 235U, 236U, 237Np, 238Pu, 238U, 239Pu, 240Pu, 241Am, 241Pu, 242Cm, 243Cm, and 244Cm.
- 22) The total abated emission limit for all non-actively ventilated activities is 3.13E-5 mrem/yr. The active ventilated activities must abide by the currently approved Portable/Temporary Radioactive Air Emissions Units (PTRAEU) NOC abated emission limit.
- 23) The Department of Health requires an identification number or numbers used to track emission units or activities must be submitted to the department within 60 days from that date of approval.
- 24) Whenever active ventilation is in operation, a PTRAEU emission unit must be used and those emissions will be tracked under the currently approved PTRAEU NOC. All of the applicable Conditions and Limitations stated for the PTRAEU NOC approval must be adhered to and clearly documented. This includes the emission limits and controls. The emissions from these activities are documented and recorded under the PTRAEU NOC only.
- 25) During facility entries using a passive ventilation system, surveys and smears must be conducted and recorded on log sheets or survey reports. These reports and/or survey records must be readily retrievable.
- 26) This NOC does not allow any decontaminating and decommissioning work to commence.
- 27) This NOC is only applicable to tank farm facilities.
- 28) The annual possession quantity must be tracked for each entry.

Project Title	Approval No.	Date Approved	NOC_ID
Vapor Sampling of Miscellaneous Underground Units with No Known path of ventilation.	AIR 00-510	5/18/2000	489

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitute a revision of the Radioactive Air Emissions License.
modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 7) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 8) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from these units (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 9) The department reserves the right to inspect and audit this unit during operation. This includes all activities, equipment, operation procedures, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 10) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 11) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 12) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 13) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 14) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 15) This unit must be fully accessible to Department of Health (DOH) inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 16) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
- 17) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 18) The work in this NOC is limited to those described activities associated with the construction and operation activities involving Vapor Sampling of Miscellaneous Underground Units With No Known Path of Ventilation.
- 19) Approved activities included in the process are the following: Sampling of miscellaneous underground units with no known path of ventilation. Miscellaneous underground units may include active and inactive underground tanks, wells, and other units with no known path of ventilation. Installation of temporary or permanent passive HEPA

type filtration on any unit if vapor sampling results show combustible gas levels exceeding 25 percent of the lower flammability limit is approved.

- 20) The total unabated emissions are limited to 2.02E-02 mrem/yr per tank.
- 21) The total unabated dose TEDE to the hypothetical MEI cannot exceed 1.04 E-05 mrem/yr per tank.
- 22) The total abated emissions are limited to 5.07E-02 mrem/yr.

- 23) The following controls must be adhered to:

* ALARACT 8 with the exception of bulleted Items 5 of Section 2.

- 24) The annual possession quantity is limited to the radionuclides listed below:

3H: 1.29E-03 Ci/gal; 6.46E+01 Ci
 14C: 2.08E-04 Ci/gal; 1.04E+01 Ci
 59 Ni: 6.12E-04 Ci/gal; 3.06E+01 Ci
 60Co: 1.73E-02 Ci/gal; 8.88E+02 Ci
 63Ni: 6.02E-02 Ci/gal; 3.01E+03 Ci
 79Se: 3.40E-04 Ci/gal; 1.70E+01 Ci
 90Sr: 1.05E+02 Ci/gal; 5.23E+06 Ci
 90Y: 1.05E+02 Ci/gal; 5.23E+06 Ci
 93Zr: 1.47E-03 Ci/gal; 7.36E+01 Ci
 93mNb: 1.26E-03 Ci/gal; 6.32E+01 Ci
 99Tc: 1.04E-03 Ci/gal; 6.20E+01 Ci
 106Ru: 2.34E-06 Ci/gal; 1.17E-01 Ci
 113mCd: 3.10E-03 Ci/gal; 1.55E+02 Ci
 125Sb: 1.73E-02 Ci/gal; 8.63E+02 Ci
 126Sn: 5.46E-04 Ci/gal; 2.73E+01 Ci
 129I: 1.03E-05 Ci/gal; 5.16E-01 Ci
 134Cs: 6.15E-04 Ci/gal; 3.08E+01 Ci
 137Cs: 3.39E+00 Ci/gal; 1.70E+05 Ci
 137mBa: 3.22E+00 Ci/gal; 1.61E+06 Ci
 151Sm: 1.27E+00 Ci/gal; 6.36E+04E+0 Ci
 152Eu: 3.38E-04 Ci/gal; 1.69E+01 Ci
 154Eu: 1.45E-01 Ci/gal; 7.23E+03 Ci
 155Eu: 2.09E-02 Ci/gal; 1.04E+03 Ci
 226Ra: 4.09E-08 Ci/gal; 2.04E-03 Ci
 227Ac: 2.12E-07 Ci/gal; 1.06E-02 Ci
 228Ra: 1.96E-06 Ci/gal; 9.82E-02 Ci
 229Th: 4.54E-08 Ci/gal; 2.27E-03 Ci
 231Pa: 3.22E-07 Ci/gal; 1.61E-02 Ci
 232Th: 2.22E-07 Ci/gal; 1.11E-02 Ci
 232U: 8.76E-05 Ci/gal; 4.38E+00 Ci
 233U: 3.37E-04 Ci/gal; 1.68E+01 Ci
 234U: 5.34E-05 Ci/gal; 2.67E+00 Ci
 235U: 2.11E-06 Ci/gal; 1.06E-01 Ci
 236U: 1.73E-06 Ci/gal; 8.66E-02 Ci
 237Np: 3.24E-05 Ci/gal; 1.62E+00 Ci
 238Pu: 4.86E-04 Ci/gal; 2.43E+01 Ci
 238U: 4.76E-05 Ci/gal; 2.38E+00 Ci
 239Pu: 2.58E-02 Ci/gal; 1.29E+03 Ci
 240Pu: 4.07E-03 Ci/gal; 2.04E+02 Ci
 241Am: 1.38E-02 Ci/gal; 6.92E+02 Ci
 241Pu: 3.55E-02 Ci/gal; 1.78E+03 Ci
 242Cm: 1.22E-05 Ci/gal; 6.08E-01 Ci
 242Pu: 1.99E-07 Ci/gal; 9.94E-03 Ci
 243Am: 6.92E-07 Ci/gal; 3.46E-02 Ci
 243Cm: 1.06E-06 Ci/gal; 5.28E-02 Ci
 244Cm: 3.97E-05 Ci/gal; 1.98E+00 Ci

- 25) Vapor space sampling must be in accordance with ALARACT 8.
 26)All work on this project must be completed on or before April 1, 2010.

200 J-NONPOINT 025

Vadose Zone Characterization

Emission Unit ID: 487

This Emission Unit has 6 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Vadose Zone Characterization	AIR 00-1104	11/17/2000	454

Conditions (state only enforceable)

- 1) The letter # AIR 00-515 originally approved this NOC. This approval letter did not reference the Conditions and Limitations for the NOC, Tank Waste Remediation Vadose Zone Characterization (# AIR 99-701).
- 2) Approval Condition #22 of AIR 99-701, the last paragraph, shall be deleted and now will read:

Excavation activities using hand tools will be performed in accordance with ALARACT 5, "ALARACT Demonstration for Soil Excavation Using Hand Tools". Excavation with a backhoe will be done using controls equivalent to ALARACT 5.

Project Title	Approval No.	Date Approved	NOC_ID
Vadose Zone Characterization	NOC Revision Form	6/21/2000	455

Project Title	Approval No.	Date Approved	NOC_ID
Tank Waste Remediation System Vadose Zone Characterization, Revision 1	AIR 00-515	5/26/2000	490

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 4) The following is a list of registered emission units to be used under this NOC:
 - * 200 P-Vadose 001 HEPA filtered exhaust on greenhouse
 - * 200 P-Vadose 002 HEPA filtered exhaust on air rotary exhaust train
 - * 200 P-Vadose 003 HEPA filtered exhaust on air hammer
 - * 200 P-Vadose 004 Perched water container
 - * 200 P-Vadose 005 Truck for hauling perched water
 - * 200 J-Non-point 025 All fugitive emissions
- 5) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction or during operation the department reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 6) The following additional drilling techniques are approved for use under this NOC: geoprobe and auger drilling. For casing removal or to enable pull back for sidewall sampling, the casing may be cut at depth using a Bowen Casing Cutter (or equivalent with prior DOH approval).
- 7) Approval is given as an alternative to transfer the perched water directly from borehole to the tanker.
- 8) Approval is given to use a downhole air hammer to drive a sampler while using a closed end probe.

- 9) Operation of the passive or active ventilation unit during the operation of the air hammer shall be documented on an approved log.
- 10) Emissions associated with the downhole air hammer will be routed to a passive or active ventilated HEPA filter. Pressure gauges will be installed on the emissions unit and will be monitored and recorded daily during operation of the downhole air hammer. Operation in the passive mode will not be allowed if the HEPA inlet pressure exceeds 20 inches water gauge and differential pressure exceeds 5.9 inches water gauge. Operation in the active ventilation mode will not be allowed if the HEPA inlet pressure exceeds 20 inches water gauge and differential pressure exceeds 5.9 inches water gauge. The flow shall not exceed the HEPA filter manufactures recommendation. Emissions from the drill rig shall be minimized using a double gasket seal and a chromed casing. This area shall be smear surveyed at the beginning and end of the work cycle and documented to determine adequacy of seal.
- 11) Periodic confirmatory sampling is required. For the air hammer method, instead of air sampling near the HEPA as described in the NOC, this shall consist of a destructive or non-destructive analysis of the HEPA filter combined with radiological field surveys during the work. The HEPA type filter located downstream shall have a minimum efficiency of 99.95 percent for particulates with a median diameter of 0.3 microns as specified by the manufacturer. The radiological analyses from the soil samples will be averaged to determine the isotopic distribution of Strontium-90 (Sr-90), Cs-137, Plutonium-239 (Pu-239), and Americium (Am-241). The record filter will be counted using a gamma spectrometer calibrated to Cs-137. Counting will be done annually using either a destructive or non-destructive technique.
- 12) The emission unit shall be inspected daily during operation and after any relocations. Line pressure tests will be performed on the line between the well head and the filter and/or fan prior to deploying the air hammer. Line pressure tests will be performed in accordance with ASME/ANSI N510.
- 13) For various characterization options covered under this NOC, the maximum TEDE to the hypothetical off site MEI shall not exceed 7.03 E-02 mrem/year. The maximum TEDE to the MEI shall not exceed 5.7 E-02 mrem/year at the Energy Northwest location as determined by CAP88PC, Version 2 supplied as supporting documentation.
- 14) APQ associated with the air hammer operation shall not exceed 195 curies. This shall be tracked and documented on an approved log.
- 15) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 16) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 17) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 18) All measured or calculated emissions must be reported annually in the Hanford Site Air Emissions Report (WAC 246-247-080(3)).
- 19) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits, the offsite dose standard, BARCT or ALARACT, whichever is applicable, or any limitations included in this approval.
- 20) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne release occur. (WAC 246-247-080(6)).
- 21) The facility must maintain a log in an approved format for this activity or emission unit (WAC 246-247-080(7)).
- 22) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 23) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 24) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).

Project Title

Vadose Zone Characterization NOC Revision 2

Approval No.NOC revision
approval**Date Approved**

11/1/1999

NOC_ID

409

Conditions (state only enforceable)

- 1) 21. Activities under this NOC are limited to the following processes as described in this NOC.

Up to ten equivalent boreholes may be drilled per year (consecutive 12-month period) by the methods described in this of the NOC. An equivalent borehole for the purposes of this NOC is assumed to have a nominal top diameter of 10 inches for the first 50 feet and a nominal bottom diameter of 8 inches for the remaining 200 feet of pipe (average depth is 250 feet). Additionally, an equivalent borehole is assumed to contain a contaminated layer 20 feet long in the 10-inch portion of the equivalent borehole. Each of the proposed subsurface sampling and drilling methods has the potential to emit radionuclides into the air. Individual methods are to be selected based on the likely level (concentration) of contaminants to be encountered. The highest levels of contamination occur closest to the tanks; however, as the depth below the tank increases, the levels of contamination decrease substantially. The most conservative drilling approach (lowest potential to emit) shall be applied first. Borehole logging shall be used to determine when it is appropriate to apply drilling techniques that may have a higher potential to emit. Zones not sampled during advancement of the borehole due to having a high potential to exceed exposure guidelines may be sampled by various side-wall sampling techniques as the boreholes are decommissioned.

Samples from air rotary type drilling shall be obtained from the “sampling sock” located on the side of the cyclone and/or from the drums underneath the cyclone and torit. The drums shall be labeled to allow correlating the material level in the drum to the depth in the borehole where the material resided. The material in the drums will be sampled by pulling a mini-core from the drum. Sampling and change-out of the drums shall performed inside the containment structure with continuous HPT coverage

Other possible borehole drilling techniques that may be used are limited to those described below.

- Sonic drilling
- Closed end probe
- Traditional cable tool drilling from top to bottom
- Cone Penetrometer

Other soil sampling techniques will include one or a combination of the following techniques:

- Air Rotary Split Spoon
- Cable Tool
- Cable Tool and Auger with a Split Spoon Core Barrel
- Sonic Core Barrel and Split Spoon
- Rotary Coring
- Sidewall Sampling

The last paragraph of #21, AIR 99-701 shall now read:

For casing removal, if decontamination or application of fixatives cannot reduce smearable contamination to less than 100,000 dpm per 100 cm² for beta/gamma or 2,000 dpm per 100 cm² for alpha, the casing shall be pulled into plastic sleeving. The casing shall be cut using a wheel cutter or by disconnecting from other segments into a nominal length of 10 feet. The wheel cutter shall not use a high speed blade. If decontamination or application of fixatives cannot reduce smearable contamination to less than 100,00 dpm per 100 cm² for beta/gamma or 2,000 dpm per 100 cm² for alpha and the casing is sleeved in plastic, no more than one foot of casing shall be exposed to the air during the cutting process. Cuttings shall be captured in a draped plastic. If decontamination or application of fixatives cannot reduce smearable contamination to less than 100,000 dpm per 100 cm² for beta/gamma or 2,000 dpm per 100 cm² for alpha, the cut pieces shall be capped with plastic or the sleeving will be horse tailed and the sections shall be placed in a burial box. Using a tremie, the hole shall be backfilled with clean (non-radioactive) materials (e.g., granular bentonite and/or grout. Casing removal activities may be performed outside of the containment structure. The closure of the equivalent boreholes may also be performed by backfilling the borehole using a tremie without pulling the casing.

Project Title	Approval No.	Date Approved	NOC_ID
Vadose Zone Characterization NOC revision	NOC revision approval	8/23/1999	387

Conditions (state only enforceable)

- 1) The following controls shall be mandatory when handling perched water, ground water and ground water sampling. All contaminated liquids shall be contained; all exterior surfaces of liquid holding devices shall be maintained at the current radiological free release limit; vented drums shall be maintained non-smearable; storage and handling of the vented drums shall be as described in the Site wide Vented Drum Notice of Construction.
- 2) No more than an average of 2,000 gallons of water (includes perched water, purge water and groundwater sampling) will be removed from each equivalent bore hole. Not to exceed 20,000 gal/year of water. Perched water and purge water will be collected in passively ventilated open top containers. When a sufficient volume of water has been collected or at the end of groundwater sampling activities, the water shall be transferred from the passively ventilated containers into a tanker truck for treatment at the 200 Area ETF or other permitted storage/treatment
- 3) The APQ associated with perched water, purge water and groundwater sampling shall not exceed 1.36E-3 curies.
- 4) Fugitive emissions will be monitored using periodic confirmatory monitoring accomplished by operating three fixed head samplers around the location of the work activities. The fixed head samplers will also be located within 100 feet of where the casing removal activities are occurring and will be operated when the work activities have the potential to emit radionuclides.

Project Title	Approval No.	Date Approved	NOC_ID
Vadose Zone Characterization	AIR 99-701	7/14/1999	379

Conditions (state only enforceable)

- 1) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) U.S. DOE shall monitor this project or emission unit as follows: Fugitive emissions result from cable tool and sonic drilling, use of the closed end probe and the cone penetrometer, the plastic containment structure during air rotary drilling, and during dismantlement/assembly or relocating the ventilation equipment, plastic containment structure, or process equipment. To confirm low emissions, periodic confirmatory monitoring will be accomplished by operating three fixed head samplers around the location of where the drilling and sampling operations are occurring. The fixed head samplers will be located within 100 feet of where the drilling and sampling work activities are occurring and will be operated whenever the work activities have the potential to emit radionuclides. These samples shall be composited for each three individual sites (total of three samples) and analyzed at the end of each borehole. Packaging of equipment and samples for shipment, shall have surveys (swipes for removable contamination) performed in accordance with TWRS as low as reasonably achievable control technology (ALARACT) demonstration number 12 and subsequent revisions, "TWRS ALARACT Demonstration for Packaging and Transportation of Equipment & Vehicles".

Fugitive emissions may also result from removing casing from the ground. To confirm low emissions, periodic confirmatory monitoring will be accomplished by operating three fixed head samplers around the location of the work activities. The fixed head samplers shall also be located with 100 feet of where the casing removal activities are occurring and shall be operated when the work activities have the potential to emit radionuclides. These samples shall be composited for each three individual sites (total of three samples) and analyzed at the end of each casing removal (WAC 246-247-075(8)).

- 4) This NOC becomes obsolete on July 15, 2019.
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).

- 7) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 8) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits, the offsite dose standard, BARCT or ALARACT, whichever is applicable, or any limitations included in this approval.
- 9) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080 (1)).
- 10) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 11) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 12) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction or during operation, the department reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 13) These activities are limited to the emission limits as shown in the following table and shall not exceed the total abated maximum limit of 7.03 E -02 mrem/Yr.
- 14) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne release occur (WAC 246-247-080(6)).
- 15) The radionuclides allowed to be process are 3H, 14C, 59Ni, 63Ni, 60Co, 90Sr, 90Y, 93Zr, 99Tc, 106Ru, 125Sb, 126Sn, 129I, 134Cs, 137Cs, 151Sm, 152Eu, 154Eu, 155Eu, 226Ra, 228Ra, 227Ac, 229Th, 232Th, 231Pa, 232U, 233U, 234U, 235U, 236U, 238U, 237Np, 238Pu, 239Pu, 240Pu, 241Pu, 242Pu, 241Am, 243Am, 242Cm, 243Cm, 244Cm.
- 16) All measured or calculated emissions must be reported annually in the Hanford Site Air Emissions Report (WAC 246-247-080(3)).
- 17) Periodic confirmatory sampling is required. For the air rotary type drilling this shall consist of a destructive or non-destructive analysis of the record filter combined with radiological field surveys during the work. The record HEPA type filter located downstream shall have a minimum efficiency of 90 percent for particulates with a median diameter of 0.3 microns as specified by the manufacturer. The radiological analyses from the soil samples will be averaged to determine the isotopic distribution of Strontium-90 (Sr-90), Cesium-137 (Cs-137), Plutonium-239 (Pu-239) and Americium (Am-241). The record filter will be counted using a gamma spectrometer calibrated to Cs-137. Counting will be done annually using either a destructive or non-destructive technique.

The soil sample isotope ratios will be applied to Cs-137 on the record filter to confirm low emissions. In addition, the HEPA filter housing shall be field surveyed after the completion of each borehole to verify low emissions. This field survey method shall be submitted to the department for approval.

Periodic confirmatory monitoring of the passive HEPA type filter will be accomplished by performing a field survey of the filter housing to confirm low emissions. The field survey of the passive HEPA type filter will be performed after the completion of each borehole. The method of performing this "field survey" shall be submitted to the department for approval (WAC 246-247-075(3)).

- 18) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 19) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 20) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080 (8)).

- 21) The annual possession quantity shall not exceed that described in the following table:
- 22) The facility must maintain a log in an approved format for this activity or emission unit (WAC 246-247-080(7)).
- 23) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 24) Emissions for these activities shall be tracked via a log approved by the department. This log shall track the hours of operation and location of use for each type of equipment, estimated and calculated curies encountered, and calculated emissions. Air samples used for periodic confirmatory measurement shall be collected no closer than 3 ft above ground level. These samples shall be composited for each three individual sites (total of three samples) and analyzed at the completion of the borehole activity and casing removal. All periodic confirmatory samples will be collected and analyzed following EPA method 114.
- 25) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).

200 E diffuse/fugitive emissions

200E P-241AR151-001

AR151

Emission Unit ID: 319

200 West Burial Grounds

200W P-Trench31 001

Leachate Collection Tank for Trench 31

Emission Unit ID: 472

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal)	RTAM	8/3/1999	381

Conditions (state only enforceable)

- 1) The PCM shall consist of smearing the overflow pipe before and after emptying the tank. When the tank is not empty, a monthly smear shall be taken. The frequency of smear samples shall be reassessed after one year.

Project Title	Approval No.	Date Approved	NOC_ID
Trench 34: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal)	RTAM	7/13/1999	377

200W P-Trench34 001

Leachate Collection Tank for Trench 34

Emission Unit ID: 473

This Emission Unit has 2 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal)	RTAM	8/3/1999	381

Conditions (state only enforceable)

- 1) The PCM shall consist of smearing the overflow pipe before and after emptying the tank. When the tank is not empty, a monthly smear shall be taken. The frequency of smear samples shall be reassessed after one year.

Project Title	Approval No.	Date Approved	NOC_ID
Trench 34: Leachate Collection and Storage Tank (LLBG Mixed Waste Disposal)	RTAM	7/13/1999	377

Conditions (state only enforceable)

1) No WDOH conditions apply to this NOC.

241-AX TANK FARM

200E P-241AX155-001

AX155 Diversion Box

Emission Unit ID: 330

241-ER

200E P-241ER311-001

ER311

Emission Unit ID: 185

This Emission Unit has 1 active Notice of Construction.

Project Title

Installation and use of a new emissions unit for the 241-ER-311 Catch Tank.

Approval No.

Shortform
Approval

Date Approved

11/8/1999

NOC_ID

412

300 diffuse/fugitive emissions

300 Area Emissions

300 Area Emissions

Emission Unit ID: 443

This Emission Unit has 2 active Notice of Construction.

Project Title

300 AREA Process Sewer Cleanout

Approval No.

AIR 00-708

Date Approved

7/27/2000

NOC_ID

446

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 3) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)), and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 4) If the department finds that the emission units described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission units, emission control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from these units (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 7) The department reserves the right to inspect and audit these units during construction and operation, including all activities, equipment, operation procedures, documents, data, and other records related to compliance with the regulations
- 8) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 9) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 10) Records must be readily (promptly) available for these units. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).

- 11) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 12) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any Conditions or Limitations in this NOC approval or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3), or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval (paragraph 5).
- 13) This unit must be fully accessible to Department of Health (DOH) inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 14) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
- 15) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 16) The work approved in this NOC is limited to those described activities associated with the construction and operation activities involving the cleanout of selected process sewer lines in the 300 Area.
- 17) Approved activities included in the process are the following: Pressure wash to clean the lines between Process Sewer 45, Process Sewer 80, Process Sewer 80, and the 300 Area Lift Station. The Guzzler may be used with the cyclone attachment that will direct the extracted liquid/soil mixture to a collection trough. The liquid/soil mixture will then be pumped from the collection trough to a tank trailer for transportation to the 307 Basins. If other types of pumping and collection equipment will be used, and the Guzzler is not available, the department must be notified of the type of equipment that will be used. The 300 Area TEDF Lift Station contains a sump, which will be cleaned in the same manner as stated above. Process Sewer 16 will also be cleaned using the Guzzler.
- 18) The total unabated emissions are limited to 4.7E-05 mrem/yr.
- 19) The total unabated dose TEDE to the hypothetical MEI cannot exceed 4.70 E-05 mrem/yr.
- 20) The total abated emissions is 4.70 E-05 mrem/yr. the same as the unabated dose.
- 21) The following Controls must be adhered to:

* The power washing activities will take place within the intact piping system, which has limited access ports allowing for air exchange to the environment.

* Piping system access ports will be closed to the maximum extent practicable during power washing activities.

* Use of liquids during power washing activities will be expected to reduce the potential for airborne particulate resuspension.

* The Guzzler controls which include, collection tank and plate separator device, cyclone separators, baghouse system with 72 bags each, equipped with a cyclic bag cleaning air blow-back system, micro-strainer device, and high-efficiency particulate air (HEPA) filter system consisting of three in-place tested HEPA filters in parallel (99.95% efficient system).

- 22) The annual possession quantity is limited to the radionuclide emissions listed below:

Sr-90 6.56 E-08 mrem/yr.
 U-234 2.04 E-05 mrem/yr.
 U-235 2.34 E-06 mrem/yr.
 U-238 1.33 E-05 mrem/yr.
 U-239 3.79 E-08 mrem/yr.
 Am-241 8.11 E-08 mrem/yr.
 Pu-238 1.46 E-08 mrem/yr.
 Pu-239 1.09 E-05 mrem/yr.

TOTAL 4.70 E-05 mrem/yr.

- 23) The monitoring systems must be periodic confirmatory measurements to verify the low emissions.
- 24) All work on this project can take place once annually.
- 25) The department retains the right to conduct stack sampling, environmental monitoring or other testing around this unit to assure compliance. If directed by the department, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 26) The facility must be able to demonstrate workers associated with this emission unit are trained in the use and maintenance of control and monitoring systems, and in the performance of associated tests and emergency procedures (WAC 246-247-075(12)).

Project Title	Approval No.	Date Approved	NOC_ID
Isolation of Radioactive Liquid Waste System Line In Valve Box 11 Outside The 324 Facility	Shortform Approval	7/7/99	375

Conditions (state only enforceable)

Isolation of Valve Box#11 Outside 324 Facility

- 1) Perform radiological field surveys during valve box work using hand held instruments to verify low emissions
- 2) Establish a buffer area around the pit to minimize the chance of spreading contamination.

400 diffuse/fugitive emissions

400 J-NONPOINT 027

4843 Waste Inspection Facility

Emission Unit ID: 489

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Shortform	4/17/1999 Approval	356	

Conditions (state only enforceable)

- 1) Verify low emissions using the four air samplers located at each border of the 400 Area.
- 2) Provide HPT coverage for field surveys during activities at the 4843 Building.
- 3) Cease all work if contaminated material exceeds 10 mrem/hour on contact and place in safe configuration.
- 4) Fumigate the garbage as necessary to prevent the spread of contamination by insects
- 5) Use fixatives when needed to prevent the spread of contamination.

600 Area Diffuse Emissions

600 J NONPOINT SOURCE

600 Area Diffuse Emissions

Emission Unit ID: 504

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Waste Sampling & Characterization Facility	AIR 00-802	8/10/2000	451

Conditions (state only enforceable)

- 1) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of

Construction before the specified activity is to begin. Copies of these procedures must be provided to the department before starting these activities.

- 3) This approval, with its Conditions and Limitations must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 4) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 5) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).
- 6) The U.S. DOE shall monitor these emission units as follows: 696-W-1 and 696-W-2 emission units shall be monitored periodically. The periodic sampling shall consist of a sample being drawn a minimum of two weeks per quarter. Periodic radiological surveys of swipes or surfaces associated with 600 J NONPOINT 033, J NONPOINT 023, 600 J NONPOINT 031, and 600 J NONPOINT 030 must be conducted to verify compliance.
- 7) The department reserves the right to conduct its own environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 8) The facility must be able to demonstrate that the workers associated with these emission units are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)). these units (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above-cited regulation.
- 9) The department reserves the right to inspect and audit this unit during construction and operation including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)). Periodic inspections will occur.
- 10) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 11) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 12) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 13) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in this approval
- 14) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).
- 15) The facility must maintain a log in an approved format by the department for the surveys and smears required in approval condition number six.
- 16) Records must be readily (promptly) available for these units. These records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080(8)).
- 17) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 18) The facility shall make requested documents available in a timely manner for review (WAC 246-247-080(10)).
- 19) The Waste Sampling Characterization Facility is limited to the following process descriptions for emission unit.

* WSCF provides analytical services to support chemical and radiological analyses conducted on a variety of solid, liquid, and vapor media, as required by the Resource Conservation and Recovery Act (RCRA) of 1976, Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Safe Drinking Water Act of 1974, Toxic Substance Control Act of 1976, Clean Water Act of 1977, and the Clean Air Act of 1990 requirements.

WESF consists of the following:

* Analytical Laboratory Building (696-W-1) - Solid, liquid, and vapor samples contaminated with low levels of radioactive material are processed, on a bench-scale basis, in fume hoods or other controlled air spaces in the building. Evaporation and wet chemistry also are used to prepare samples for analysis. Wastewater drums are filled inside the laboratory building and transferred either to the solid waste storage building (described as follows) or other approved facilities on the Hanford Site, or the wastewater drums are moved to various locations with WSCF.

* Radiochemistry Laboratory (696-W-2) - This is a below grade counting room in the Analytical Laboratory Building with a separately controlled airspace within the building.

* Environmental data including a computer center - This is a non-radiological building and will not be addressed further.

* Environmental Sample Archive Building (600 J non-point 032) - This building provides for controlled storage, indexing, categorizing of low level contaminated samples. Storage is provided for up to 2,500 samples requiring refrigerated storage and up to 11,500 samples requiring ambient storage.

* Mobile Laboratory Storage Facility (600 J non-point 031) - This structure houses up to five mobile laboratories and provides protection from adverse weather conditions for the instrumentation and computers inside the mobile laboratories. This area contains a calibration laboratory instrumentation used in the mobile laboratories, and a sample preparation area for adding chemical buffers and preservatives to sample containers. This building also provides for temporary storage of drums, or other waste packages contained with low levels of radioactive material. Less than 100 drums are stored at any one time.

* Solid Waste Storage Building (600 J non-point 030) - This open-sided building provides for temporary storage of drums or other low-level waste packages. Less than 100 drums are stored at any one time.

* Contaminated Liquid Waste Retention Vault (600 J non-point 033) - This consists of two 3,785-liter polyethylene tanks contained in a common concrete vault. The tanks are designed to receive low level inorganic and radiologically contaminated liquid waste or sample excess from the analytical laboratory. The liquid routinely is transferred to an approved disposal facility on the Hanford Site using the portable tanker described as follows. This building also provides for temporary storage of drums, or other waste packages contaminated with low levels of radioactive material. Less than 100 drums are stored at any one time.

* Portable Tanker(s) used for Wastewater Transport - Wastewater drums containing liquid waste contaminated with low levels of radioactive material are stored temporarily at various locations within WSCF. In some cases, the contents of these drums are pumped into a portable tanker at the various locations for transport to other facilities. To accomplish the pumping, a small pump has its drop leg inserted into each drum through the bung hole or other opening, and flexible hose transfers the liquid to the tanker.

* Sample Equipment Cleaning Facility - This facility includes a calibration and laboratory equipment room equipped with a fume hood for solvent cleaning of tools used for collecting samples from the field. This is a non-radiological facility and will not be addressed further.

20) The radiological control technology requirements are as follows:

* 696-W-1 shall have a pre-filter and a HEPA filter before entering the exhaust stack. The flow rate shall be kept in a range of 54,000 CFM plus or minus 10%. When the ventilation system exits the analytical laboratory building and divides into legs, each leg must consist of a damper, a pre-filter, a HEPA filter bank (4x3), a damper, and a fan. The pre-filter must be a high-density micro media with an average efficiency of 25 to 30 percent. The HEPA filter

assembly housings must have bagout provisions. The pre-filter housing must be designed for ease of filter change without increased dust loading on the HEPA filters. Two 50% capacity exhaust fans are installed and operate with parallel under normal power.

- * 696-W-2 stack operates a ventilation system that splits into two legs. Each leg of the parallel system must consist of a damper, a pre-filter, a HEPA filter bank (4x3), and a damper. The installed filtration system provides a minimum of 99.95% collection efficiency. After the air passes through the parallel system, the legs join together and pass through the fan. The airflow is divided into two paths, with 10% of the airflow exhausting directly to the stack, and the other 90% of flow recycling back into the building. The damper and fan regulate the flow.

- * 600 J non-point 032 will control emissions by the structure itself.

- * 600 J non-point 031 will control emissions based on the design of the mobile laboratories, combined with minimization of any indoor contamination, in accordance with established radiation control procedures.

- * 600 J non-point 030 will control emissions by controlling the waste packages. Minimize the external contamination in accordance with established radiation control procedures.

- * 600 J non-point 033 will control emissions by having a passive vent HEPA type high efficiency filter on each tank.

- * 600 J non-point portable tanker source will control emissions by passively venting the portable tanker.

21.) The annual possession quantity for each building is as follows:

- * 696-W-1 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 696-W-2 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 600 J non-point 032 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 600 J non-point 031 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 600 J non-point 030 the annual possession quantity for this emission unit must abide by the vented container Notice of Construction.

- * 600 J non-point 033 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

22.) The annual possession quantity for each building is as follows:

- * 696-W-1 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 696-W-2 stack can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 600 J non-point 032 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 600 J non-point 031 can handle 0.33 curies per year of plutonium 239 and 6.80 curies per year of strontium 90.

- * 600 J non-point 030 the annual possession quantity for this emission unit must abide by the vented container Notice of Construction.

23) The abated and unabated emission limits are as follows:

* 696-W-1 Stack:

Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

Abated: 1.7 E-7 Ci/yr Pu-239, 3.4 E-6 Ci/yr Sr-90

* 696-W-2 Stack:

Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

Abated: 1.7 E-7 Ci/yr Pu-239, 3.4 E-6 Ci/yr Sr-90

* 600 J Non-Point 032:

Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

Abated: 3.3 E-6 Ci/yr Pu-239, 6.8 E-5 Ci/yr Sr-90

* 600 J Non-Point 031:

Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

Abated: 3.3 E-7 Ci/yr Pu-239, 6.8 E-6 Ci/yr Sr-90

* 600 J Non-Point 033:

Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

Abated: 3.3 E-6 Ci/yr Pu-239, 6.8 E-5 Ci/yr Sr-90

* 600 J Non-Point Source, Portable Tanker:

Unabated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

Abated: 3.3 E-4 Ci/yr Pu-239, 6.8 E-3 Ci/yr Sr-90

24) The annual possession quantity of plutonium and strontium are considered conservative and noted that these radionuclides representative types of alpha and beta radiation that this facility expects to handle. The facility needs to verify annually that plutonium and strontium are the most conservative radionuclides this facility handles.

All Plants

200 J-NONPOINT 023

By-Pass of 244-U DCRT

Emission Unit ID: 483

This Emission Unit has 1 active Notice of Construction.

Project Title

By-Passing the 244-U Double Contained Receiver Tank (DCRT)
During Saltwell Pumping

Approval No.

Shortform
Approval

Date Approved

5/4/1999

NOC_ID

360

Conditions (state only enforceable)

- 1) Pneumatic Pressure Testing: Air used to pressurize line(s) will be vented to the atmosphere through a HEPA filter.
- 2) Welding: Prior to making a weld, the external cut and weld area will be radiologically surveyed/smeared to verify contamination levels are equal to or less than 10,000 dpm/100 square centimeters beta/gamma and 2,000 dpm/100 square centimeters alpha.
- 3) Excavation: Provide HPT field survey coverage during excavation activities.
- 4) Transfer Line Cuts: Transfer lines will be cut in a glovebag that is passively vented through a HEPA type filter. Provide continuous HPT coverage during cutting operations.
- 5) Pit Work: Perform radiological surveys of work area. Swipes for removable contamination are required. Swipes will be taken to determine that splash guards are maintained below 50,000dpm/100cm² beta/gamma and 20 dpm/100 cm² alpha. Survey the pit area when work is completed.

200 P-241ER151-001

ER151

Emission Unit ID: 171

200 P-241ER152-001

ER152

Emission Unit ID: 170

200 P-241ER153-001

ER153

Emission Unit ID: 169

200 J-NONPOINT 018

Grout Railcar

Emission Unit ID: 460

200 J-NONPOINT 012

Purgewater Modutanks

Emission Unit ID: 465

This Emission Unit has 4 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Purgewater Modutanks	Teleconference	4/29/1999	359

Conditions (state only enforceable)

- 1) This teleconference clarified two conditions regarding control technology and monitoring requirements of AIR

Project Title	Approval No.	Date Approved	NOC_ID
Purgewater Modutanks	AIR 99-101	1/8/1999	330

Conditions (state only enforceable)

- 1) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction
- 2) This approval, with its Conditions and Limitations, constitutes an amendment to the Department's Radioactive Air Emission License. This amendment must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)).
- 3) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10) and (11)).
- 4) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 5) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations (WAC 246-247-080(1)).
- 6) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 7) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 8) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred (WAC 246-247-080(5)).
- 9) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in

WAC 246-247-040 during construction ,as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance (WAC 246-247-060-(2)(d)).

- 10) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years (WAC 246-247-080(8)).
- 11) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)).
- 12) The facility shall make requested documents available in a timely manner for review. (WAC 246-247-080(10)).
- 13) Purgewater tank controls will be implemented to minimize wind suspension of radioactive solids that may settle to the bottom of the storage tank. They include the use of aerodynamic covers and/or maintenance of a minimum liquid level in each unit. Solids that have settled to the bottom will be wetted to minimize wind suspension. This meets the minimum liquid level requirement.
- 14) The maximum impact for the six evaporation units shall be 1.5E-04 millirem per year.
- 15) All reports and records must be kept and reported according to 40 CFR 61, Subpart H (WAC 246-247-080(2)).
- 16) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)). Project specific monitoring is not required for this unit. Emissions from the unit are monitored by the ambient air monitoring program established for the Hanford Site and documented in reports prepared for this program.
- 17) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 18) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5) (WAC 246-247-080(5)).

Project Title	Approval No.	Date Approved	NOC_ID
Purgewater Modutanks	Meeting minutes	7/9/1998	285

Conditions (state only enforceable)

- 1) No WDOH conditions apply to this NOC.

Project Title	Approval No.	Date Approved	NOC_ID
Purgewater Modutanks	AIR 91-803	8/27/1991	7

Conditions (state only enforceable)

- 1) Controls will be implemented to minimize wind suspension of any potentially radioactively contaminated solids that may settle to the bottom of the storage units.

200 J-NONPOINT 020

Soil Characterization Using Cone Penetrometer

Emission Unit ID: 480

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Soil Characterization Using the Cone Penetrometer	AIR 98-1009	10/29/1998	324

Conditions (state only enforceable)

- 1) The process is limited to the exact description described in the NOC.
- 2) The facility shall make requested documents available in a timely manner for review.
- 3) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections. At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those

requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.

- 4) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least 5 years.
- 5) The facility must maintain a log in an approved format for this activity or emission unit.
- 6) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, including whether or not any potential for airborne releases occurred.
- 7) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that last more than four hours, it must be reported to the department within 24 hours. (Note: Applicable standards (WAC 246-247-040) include unit specific emission limits (paragraph 5), the offsite dose standard (paragraph 1), BARCT (paragraph 3) or ALARACT (paragraph 4), whichever is applicable, or any limitations included in the approval (paragraph 5)).
- 8) The required controls are: As described in Item 6 of the NOC.
- 9) All reports and records must be kept and reported according to 40 CFR 61, Subpart H.
- 10) U.S. DOE shall monitor this project or emission unit as follows: Field surveys HP coverage
- 11) The department reserves the right to inspect and audit this unit during construction and operation, including all activities, equipment, operations, documents, data, and other records related to compliance with the regulations.
- 12) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 13) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use an maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures.
- 14) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing.
- 15) Periodic confirmatory sampling is required. It must consist of: Field surveys resulting from HP coverage
- 16) U.S. DOE shall comply with all Conditions and Limitations of this license.
- 17) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emissions control, monitoring or containment systems (if conducted). The department reserves the right to observe such tests.
- 18) The abated emission limit is: 2.04e-10 mrem/yr to the MEI.
- 19) All measured or calculated emissions must be reported annually.
- 20) The department may require an ALARACT demonstration at any time.
- 21) If the department finds that the emission unit described in this NOC, is not in compliance with the standards in WAC 245-247-040 during construction ,as described in this NOC, or during operation, it reserves the right to require modifications to bring it into compliance.
- 22) The radionuclides are limited to: Cs-137, Sr-90 - Table 1 of NOC.
- 23) The facility must be able to demonstrate that it has a quality assurance program compatible with the applicable national standards listed in, or equivalent to, those listed in the above cited regulation

200 J-NONPOINT 003

Tank Farm Restoration and Safe Storage

Emission Unit ID: 456

This Emission Unit has 1 active Notice of Construction.

Project Title	Approval No.	Date Approved	NOC_ID
Tank Farm Restoration and Safe Operations Project W-314, Revision 4	AIR 00-310	3/22/2000	441

Conditions (state only enforceable)

- 1) The controls and monitoring requirements listed in the NOC and this approval shall assure adequate measures are in place for the safe operation of the emission unit.
- 2) The department reserves the right to conduct an environmental surveillance program around the emission unit and to require the facility to conduct or modify its own environmental monitoring program (WAC 246-247-075(9)).
- 3) When this project is completed, and ceases to be an emission unit, a report of closure must be filled with the department (WAC 246-247-080(6)).
- 4) The Annual Possession Quantity (APQ) for pipe cuts must be tracked using a WDOH approved log. The log must contain the date the cut was performed, contamination levels associated with the pipe being cut, using the same methodology as outlined in Attachment 1 "Potential to Emit Cutting Transfer Lines", and the mrem/yr. to the MEI associated with that pipe cut (WAC 246-247-080(7)).
- 5) This project must be included in the next revision of the Air Operating Permit if active at the time (WAC 246-247-060(1)(e)).
- 6) The NOC constitutes a contract between the department and the facility. Any changes must be approved by the department.
- 7) A wind speed restriction of 20 miles per hour will be applied to all excavation of radioactive material. This criterion applies to sustained wind speed as determined by the Hanford Meteorological Station. makes a commitment on what standards (required or recommended) will be followed. At that point, the commitment is binding.
- 9) The emissions from the continued operation of the new AN and AZ pits will be limited to 5.38E-04 mrem/yr. these emissions will be monitoring by the near field monitoring stations.
- 10) This approval to commence construction is valid for only two years from the date of approval. If construction is not commenced within two years of approval, the approval is void.
- 11) An ALARACT demonstration may be required at any time by the department (WAC 246-247-130).
- 12) Any spread of contamination via the air pathway must be reported to the department within 24 hours (WAC 246-247-075(9)).
- 13) The APQ for soil excavation must be tracked using a WDOH approved log. The log must contain the date of the excavation, the contamination levels of the soil, amount of soil excavated, and the mrem/yr. to the MEI associated with that excavation (WAC 246-247-080(7)).
- 14) Pit work will be comprised of decontamination, applying protective coatings, and replacing wall nozzles, leak detectors, cover blocks, pipe stub-outs and jumpers. Additional pit activities will include coring to allow installation of new equipment and piping and to allow access to pit equipment. Pit work will also include repair and removal of cracked material to allow application of grouting material.
- 15) The use of the Guzzler is approved for excavation work associated with the W-314 Project provided the total PTE for the project of 1.15E-02 mrem/yr. TEDE to the MEI is not exceeded. The emission from the Guzzler must be tracked using a WDOH approved operations log. The log shall include soil contamination levels, total amount of soil excavated, and the calculated potential dose to the MEI from those emissions using a release fraction of one. The Guzzler will be operated in accordance with the Tank Farm A Complex NOC and the associated conditions provided by WDOH in the December 23, 1998 approval letter. Guzzler use in other Farms will be performed in accordance with the December 18, 1998 WDOH approved Categorical Guzzler NOC (WAC 246-247-080(7)).
- 16) Excavated areas will be backfilled with the original soil or soil that is less contaminated than excavated soil.
- 17) The project shall be fully accessible to department inspectors (WAC 246-247-080(9)).
- 18) U.S. DOE shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 19) Any deviation from the description of the modification or new construction without approval of the department, may result in enforcement action under WAC 246-247-100.
- 20) The emission limit for this project may not exceed 1.15E-02 mrem/yr. TEDE to the MEI (WAC 246-247-040(5)).
All logs, and documentation associated with this NOC and other referenced NOC (PTREAU NOC, A-Tank Farm Guzzler NOC, and Categorical Guzzler NOC) must be maintained for review and assure that the APQ and emission limit of 1.15E-02 mrem/yr. TEDE to the MEI are not exceeded for Project W-314.
- 21) Vibratory roller compactors may not be used on contaminated soil, due to the high possibility of soil resuspension (WAC 246-247-040(4)).
- 22) Expandable foam may be used in cutting of transfer lines, but is not required.

- 23) Containment for the cutting of transfer lines will be HEPA filtered and in sealed glove bags or other containment. HEPA filters used on passively ventilated glovebags or containments will be surveyed once per day. HEPA filters used on powered ventilation will comply with the requirements of the Portable/Temporary Radioactive Air Emission Units NOC (DOE/RL-96-75).
- 24) Nothing may be inferred that is not specifically described in this NOC (WAC 246-247-060 and 110).
- 25) Soil will be wetted prior to and during excavation using the backhoe, jackhammer or rototool. During manual excavation soil will be wetted upon excavation if it is not naturally damp.
- 26) Excavation work north of the 241-AX-103 and 101 Tanks is close to the 216-A-39 Crib, which may be a source of extra contamination in the vicinity. Extra care should be taken in that area.
- 27) No radionuclides other than those listed in the NOC may be emitted in any detectable concentrations (WAC 246-247-110(10)(11)(12)).
- 28) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13)). The emission data must be reported in the Hanford Site Annual Air Emission
- 29) Pit work will include removal of cracked material will be performed using manual and power tools. This work will be conducted inside a fully enclosed containment tent with a HEPA filtered exhauster operated in accordance with the PTRAEU NOC.
- 30) All records required by WAC 246-247 must be retrievable within 24 hours of the request, and must be stored onsite at the facility. All records shall be maintained for a minimum of five years (WAC 246-247-080(8)).
- 31) During excavation, using a backhoe, jackhammer, rototool, or manual devices soil will be placed in a container or on the ground for a screening survey. The screening levels will be as follows:
 - * Excavation activities will be stopped if evenly distributed (i.e. non-speck) contamination detection readings are greater than 100,000 dpm/100 cm² beta-gamma, or 35 dpm/100 cm² alpha above background. Background for alpha will be determined in a known clean area nearby. Excavation will not continue until a review of the work and encountered conditions have been performed and it has been confirmed with the Department of Health that no threat to the environment exists, and proper controls (i.e. removal and disposal, water, fixative, covers, etc.) have been put into place.
 - * Screening survey for alpha contamination will not be performed unless the beta-gamma survey is greater than 100,000 dpm/100 cm² above naturally occurring background.
 - * If hot specks are detected during the screening surveys, the specks will be removed and containerized in drums for disposal before the excavation is allowed to continue, unless located in the bottom of the trench. In the bottom of the trench, the specks maybe covered with clean fill.
 - * Screening surveys for beta-gamma contamination will be conducted using a GM/P-11 probe. Screening surveys for alpha contamination will be conducted using a PAM.
- 32) Pit coring activities will be performed in accordance with the containment requirements established in the HNF-IP-0842 "Containment Guidelines Matrix".
- 33) The facility shall notify the department at least seven days prior to any planned preoperational testing (cold or hot) monitoring or containment system involved in this project. The department reserves the right to observe any such testing (WAC 246-247-060(4)). Notification may be by phone, electronic mail or written correspondence.
- 34) A HEPA vacuum may be used to assist in the removal of debris during repair of cracked concrete and concrete coatings. The HEPA vacuum must only be operated in a fully enclosed containment tent, which is being ventilated by a HEPA filtered powered exhaust, in accordance with the PTRAEU NOC. Any other use of a HEPA vacuum must receive prior approval from WDOH.
- 35) For cover block removal a "bull pen" will be utilized. A vertical splashguard will be established around the pit and will be maintained less than 50,000 dpm/100 cm² beta-gamma and 20 dpm/100 cm² alpha. The removable contamination within the pit is decontaminated/fixed to an average of less than 100,000 dpm/100 cm² beta-gamma and 2000 dpm/100 cm² alpha or an approved fixative has been reapplied to pit surfaces. Fixative will matrix the contamination to ensure minimization of potential airborne contamination.

For the removal of jumpers an open top greenhouse ventilated with an HEPA filtered exhauster will be utilized for containment. The exhauster will be operated in accordance with the PTRAEU NOC. A suction elephant trunk may be extended into the valve pit. When an elephant trunk is extended into a pit it should be maintained at least two feet above the pit floor. As jumpers are removed from the valve pit they will be drained of any liquid while still within the valve pit. Draining will be accomplished by titling the jumper and allowing any liquid present to flow to the pit floor and floor drain. The ends of the jumpers will then be wrapped in plastic and placed in disposal boxes while inside the containment.

A continuous air sample will be taken during pit work evolution. Work will be placed in a safe condition and stopped if the results of the net field count indicate that the work place air sample has exceeded 0.1 of the Derived Air Concentration (DAC) at which time WDOH will be notified. Work will remain suspended until this air sample and potential cause has been evaluated by the Radiological Controls and Environmental. An air sample outside of a radiological area will be taken at approximately the same time and volume and can be used as a background sample to subtract activity resulting from radon and its progeny from the workplace sample.

During pit work when contamination levels exceed 100,000 dpm/100 cm² and the fixative is disturbed or not in place, containment shall consist of a fully enclosed certified containment tent with an operating HEPA filtered exhaust. The exhauster will be operated in accordance with the PTRAEU NOC.

- 36) The department reserves the right at any time to require the licensee to provide for split or collocated sampling of this project (WAC 246-247-075(10)).

Effluent Treatment Facility (ETF)

200E J-NONPOINT 021

ETF Load-In Station Filter Skid

Emission Unit ID: 481

This Emission Unit has 1 active Notice of Construction.

Project Title

Addition of 200 Area Effluent Treatment Facility (ETF) Load-In
Station Filter Skid

Approval No.

Short form
approval

Date Approved

3/31/1999

NOC_ID

350

Conditions (state only enforceable)

- 1) Periodic confirmatory measurements to verify low emission shall use the Hanford Site Near-Facility Environmental Monitoring program.
- 2) Implement administrative controls based on a liquid sample analysis from the feed stream to allow no more than 824 curies pass through the filtration system in one year.

Table 2.1 Requirements for minor passively ventilated vents in high level waste tank farms

Perform Periodic Confirmatory Measurements (PCM) annually by verifying the levels of smearable contamination on the inside surface of the ducting and downstream of the HEPA filter, or on the outside of the screen covering the outlet of the vent, should one exist. Use a confirmation level below 10,000 dpm/100 cm² beta gamma and 200 dpm/100 cm² alpha to verify low emissions. Detected levels above these thresholds would result in further investigation and reporting if it is determined that the cause was due to an airborne emission. The radiological survey reports will become the record for the PCM. [WAC 173-401-61(2)]

200EP-241A101-001	200EP-241BX110-00	200WP-241S108-001	200WP-241TX113-0
200EP-241A102-001	200EP-241BX111-00	200WP-241S109-001	200WP-241TX114-0
200EP-241A103-001	200EP-241BX112-00	200WP-241S110-001	200WP-241TX115-0
200EP-241A104-001	200EP-241BY101-00	200WP-241S111-001	200WP-241TX116-0
200EP-241A105-001	200EP-241BY102-00	200WP-241S112-001	200WP-241TX117-0
200EP-241A106-001	200EP-241BY103-00	200WP-241SX113-00	200WP-241TX118-0
200EP-241AX101-00	200EP-241BY104-00	200WP-241SX115-00	200WP-241TY101-0
200EP-241AX102-00	200EP-241BY105-00	200WP-241T101-001	200WP-241TY102-0
200EP-241AX103-00	200EP-241BY106-00	200WP-241T102-001	200WP-241TY103-0
200EP-241AX104-00	200EP-241BY107-00	200WP-241T103-001	200WP-241TY104-0
200EP-241B101-001	200EP-241BY108-00	200WP-241T104-001	200WP-241TY105-0
200EP-241B102-001	200EP-241BY109-00	200WP-241T105-001	200WP-241TY106-0
200EP-241B103-001	200EP-241BY110-00	200WP-241T106-001	200WP-241U101-001
200EP-241B104-001	200EP-241BY111-00	200WP-241T107-001	200WP-241U102-001
200EP-241B105-001	200EP-241BY112-00	200WP-241T108-001	200WP-241U103-001
200EP-241B106-001	200EP-241C101-001	200WP-241T109-001	200WP-241U104-001
200EP-241B107-001	200EP-241C101-001	200WP-241T110-001	200WP-241U105-001
200EP-241B108-001	200EP-241C102-001	200WP-241T111-001	200WP-241U106-001
200EP-241B109-001	200EP-241C107-001	200WP-241T112-001	200WP-241U107-001
200EP-241B110-001	200EP-241C108-001	200WP-241T201-001	200WP-241U108-001
200EP-241B111-001	200EP-241C109-001	200WP-241T202-001	200WP-241U109-001
200EP-241B112-001	200EP-241C110-001	200WP-241T203-001	200WP-241U110-001
200EP-241B201-001	200EP-241C111-001	200WP-241T204-001	200WP-241U111-001
200EP-241B202-001	200EP-241C112-001	200WP-241TX101-0	200WP-241U112-001
200EP-241B203-001	200EP-241C201-001	200WP-241TX102-0	200WP-241U201-001
200EP-241B204-001	200EP-241C202-001	200WP-241TX103-0	200WP-241U202-001
200EP-241BX101-00	200EP-241C203-001	200WP-241TX104-0	200WP-241U203-001
200EP-241BX102-00	200EP-241C204-001	200WP-241TX105-0	200WP-241U204-001
200EP-241BX103-00	200WP-241S101-001	200WP-241TX106-0	200EP-241C103-001
200EP-241BX104-00	200WP-241S102-001	200WP-241TX107-0	
200EP-241BX105-00	200WP-241S103-001	200WP-241TX108-0	
200EP-241BX106-00	200WP-241S104-001	200WP-241TX109-0	
200EP-241BX107-00	200WP-241S105-001	200WP-241TX110-0	
200EP-241BX108-00	200WP-241S106-001	200WP-241TX111-0	
200EP-241BX109-00	200WP-241S107-001	200WP-241TX112-0	

DEPARTMENT OF HEALTH
RADIOACTIVE AIR EMISSIONS
NOTICE OF CONSTRUCTION
APPROVAL FOR

**PROJECT TITLE: USE OF AN ULTRA HIGH PRESSURE WATER LANCE TO INSTALL
SALTWELL PUMPING EQUIPMENT IN TANK 241-BY-105**

**Date Approved: 22-Feb-00
Emission Unit Name: BY105**

This is a MINOR, PASSIVELY ventilated emission unit.

This emission unit requires the following Abatement Technology:

Applicable Requirements:

ALARACT [WAC 246-247-040(4)]

ALARACT

BARCT [WAC 246-247-040(3)]

Additional monitoring or sampling requirements established by this NOC will be listed in the Conditions and Limitations section.

CONDITIONS AND LIMITATIONS

- 1) The U.S. Department of Energy shall comply with all Conditions and Limitations of this license (WAC 246-247-060(5)).
- 2) The total abated emission limit for this Notice of Construction is limited to 1.02E-05 mrem/year to the Maximally Exposed Individual. The total unabated emission limit for this Notice of Construction is limited to 5.85E-03 mrem/year to the Maximally Exposed Individual.
- 3) **This process is limited to:**
This NOC allows the use of an ultra high pressure water lance to install saltwell pumping equipment. This approval authorizes the use of an ultra high-pressure water lance for this work instead of the high-pressure water lance described in DOE/RL-97-09, "Radioactive Air Emissions Notice of Construction Use of a Portable Exhauster in Single Shell Tanks During Saltwell Pumping."
- 4) All work on the project must be concluded by 2005.
- 5) This unit must be fully accessible to Department of Health inspectors. If there are any specific training requirements or have restrictions or special requirements for entry, they must be given to the department when they are known to allow for unannounced inspections, as required by EPA (WAC 246-247-080(9)). At a minimum, for unannounced inspections, such requirements or restrictions must be told to inspectors that morning, with the opportunity for the inspectors to meet those requirements. For prior announced inspections, such notification must occur far enough in advance for the inspectors to have reasonable time to meet the requirements.
- 6) If there is an unexpected release of radioactivity or if there is a shutdown or other condition that, if it were allowed to persist, would result in emissions of radionuclides in excess of any standards or limitations in the license or that lasts more than four hours, it must be reported to the department within 24 hours. Applicable standards(WAC 246-247-040)include unit specific emission limits (paragraph 5), the offsite dose standard(paragraph 1), BARCT(paragraph 3)or ALARACT(paragraph 4), whichever is applicable, or any limitations included in this approval(paragraph 5).
- 7) All measured or calculated emissions must be reported annually (WAC 246-247-080(3)).
- 8) Approved saltwell pumping activities of liquid waste from Tank 241-BY-105 is outlined in DOE/RL-97-09, "Radioactive Air Emissions Notice of Construction Use of a Portable Exhauster in Single Shell Tanks During Saltwell Pumping". This approval authorizes the use an ultra high-pressure water lance for this work instead of the originally approved high-pressure water lance.
- 9) The total abated emissions are limited to 1.02E-05 mrem/yr.

- 10) The annual possession quantity of the waste material in Tank 241-BY-105 cannot exceed 2.3E+06 curies.
- 11) Records must be readily (promptly) available for this unit. Those records must be maintained onsite, and must be retained for at least five years (WAC 246-247-080 (8)).
- 12) All reports and records must be kept and reported according to 40 CFR 61, Subpart H. (WAC 246-247-080(2)).
- 13) The department may require an ALARACT demonstration at any time (WAC 246-247-080(1)).
- 14) Monitoring must consist of:
 - * Dose rate measurements and contamination surveys during the proposed activities. Particular attention must be paid to areas with potential leakage, air borne pathway releases associated with work around risers, cover block penetrations and removal of equipment. Pre-job and post-job surveys must be performed. These records must be made available to DOH upon request. All surveys must be performed according to established procedures during work activities.
 - * Periodic confirmatory measurements (PCMs) must be performed quarterly. These activities will be done by verifying the levels of smearable contamination on the outside of the screen covering the outlet of the vent. Confirmation levels below 10,000 disintegrations per minute/100 square centimeters beta/gamma and 200 disintegrations per minute/100 square centimeters alpha must be used to verify low emissions. Levels above the thresholds will require further investigations and reporting if it is determined that the cause was due to airborne emissions. Radiological survey reports become part of the PCM record.
- 15) The proposed controls for this operation must include the following:
 - * The existing high-efficiency particulate air (HEPA) type breather filter must be used.
 - * All operational activities must be performed under the tank's passive breathing rates.
 - * Tank interface equipment must include riser adapter spool pieces that mates to, and is supported by, the pump pit cover plate and extends down into the riser.
 - * The pump pit cover plate must be installed during the installation, operation, and removal of the UHP water lance. Installation and removal of equipment must be performed according to ALARACT 10.
 - * If a retrievable lance is utilized, a spray washer decontamination system must be integrated into the riser adapter to reduce radioactive contamination levels of the deployment device to allowable levels, when the device is withdrawn from the tank.
- 16) The total unabated TEDE to the MEI is limited to 5.85E-03 mrem/yr.
- 17) This approval, with its Conditions and Limitations, must be included in the next revision of the Hanford Air Operating Permit (WAC 246-247-060(1)(e) and (2)(c)) and will at that time, constitute a revision of the Radioactive Air Emissions License.
- 18) The abated emissions levels are limited to 3.06 E-08 Ci/yr. for alpha, 5.00E-04 Ci/yr. for beta, and 1.15E-04 Ci/yr. for Cs-137.
- 19) The facility must be able to demonstrate that the workers associated with this emission unit are adequately trained in the use and maintenance of emission control and monitoring systems, and in the performance of associated test and emergency response procedures (WAC 246-247-075(12)).
- 20) If the department finds that the emission unit described in this NOC is not in compliance with the standards in WAC 246-247-040 during construction (as described in the NOC or during operation) it reserves the right to require modifications to bring it into compliance (WAC 246-247-060(2)(d)).
- 21) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 22) When this project is completed, or operations cease, the facility shall notify the department via a report of closure, and indicate whether or not any potential for airborne release occurred (WAC 246-247-080(6)).

- 23) The UHP water lance may not be operated until the lance is situated under the liquid waste cover.
- 24) Unabated alpha emissions are limited to 3.06 E-06 Ci/yr., beta emissions are limited to 5.0 E-02 Ci/yr., and Cs-137 emissions are limited to 1.15 E-02 Ci/yr.
- 25) The facility shall notify the department at least seven days prior to any planned preoperational testing of the emission unit's emission control, monitoring or containment systems. The department reserves the right to observe such tests (WAC 246-247-060(4)).6.) The department retains the right to conduct its own stack sampling, environmental monitoring or other testing, as required around this unit to assure compliance. If the department so decides, the facility must make provision for such testing (WAC 246-247-075(10)).
- 26) The facility must be able to demonstrate the reliability and accuracy of emission data and other test results from this unit (WAC 246-247-075(13) and WAC 246-247-075(6)). The facility must be able to demonstrate that it has a quality assurance program compatible with applicable national standards listed in, or equivalent to, those listed in the above cited regulation.
- 27) The facility shall make requested documents available for timely review (WAC 246-247-080(10)).
- 28) The work approved in this NOC is limited to use of the UPH water lance to install saltwell pumping hardware in Tank 241-BY-105.
- 29) These Conditions and Limitations must be proceduralized prior to starting the activities described in the Notice of Construction.
- 30) The department reserves the right to inspect and audit this unit during operation. This includes all activities, equipment, operation procedures, documents, data, and other records related to compliance with the regulations (WAC 246-247-080 (1)).
- 31) Administrative controls must be based on ALARA "As Low as Reasonably Achievable", they must include the following for this project:

* If the lance is removed from the tank, the tank equipment must be designed for ease of decontamination. The system must be contoured to allow "snag free" removal from the riser and also be self-draining. All intenal recesses must be easily accessible for decontamination.

* Installation/operation/removal methods of the water lance system must be designed to minimize the possibility of an unfiltered radioactive material release to the environment.

March 2001

Attachment 3

Number: 00-5-006

Benton Clean Air Authority Permit

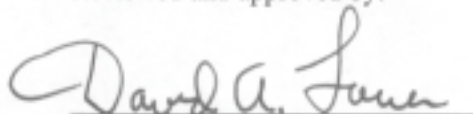
Benton Clean Air Authority
650 George Washington Way
Richland, WA 99352

The permittee shall comply with the National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 Code of Federal Regulations (CFR) Part 61, Subpart M, "National Emission Standard for Asbestos," and the Benton Clean Air Authority (BCAA) Regulation 1, Article 8, "Asbestos." Pursuant to the authorities delegated by EPA and Ecology, the BCAA is the responsible authority to ensure compliance with 40 CFR 61, Subpart M, Chapter 173-400-075 Washington Administrative Code (WAC 173-400-075), and the BCAA Regulation 1, Article 8, adopted by reference in this air operating permit (AOP), for the Hanford Site.

The permittee shall comply with WAC 173-425 and BCAA Regulation 1, Article 5, "Open Burning," that require the Department of Energy, its contractors, or its subcontractors to follow these rules regulating open burning. The Department of Energy, or contractors, shall request a special open burning permit and obtain BCAA approval for open burning activities subject to the underlying applicable requirements. Pursuant to the authorities delegated by Ecology, the BCAA is the responsible authority to ensure compliance with WAC 173-425 and the BCAA Regulation 1, Article 5, adopted by reference in this AOP for the Hanford Site.

Dated at Richland, Washington this 12 of March, 2001

Reviewed and approved by:



Dr. David A. Lauer
Control Officer
Benton Clean Air Authority

12 March 2001
Date

Attachment 4

NESHAP Federal Facility Compliance Agreement

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) entered into a Federal Facility Compliance Agreement (FFCA) on February 7, 1994. The original 1994 FFCA is displayed in Section 21 of the Ecology Statement of Basis. Updated status and revised agreements are documented in quarterly reports. The FFCA and its revisions are integral part of this AOP. EPA is the sole agency regarding issues on regulatory enforcement and compliance schedules.

The FFCA for the Hanford Site is intended to bring the Hanford Site into compliance with NESHAP regulations required in Title 40, Code of Federal Regulations (CFR) Part 61, Subpart H as expeditiously as practical, pursuant to Section 1-601 of Executive Order 12088. The Compliance Plan provides a schedule for DOE to review specified air emission sources to determine whether those sources are Designated Stacks. The Compliance Plan establishes a schedule for DOE to evaluate the monitoring systems associated with Designated Stacks and to demonstrate to EPA that those monitoring systems conform or are equivalent to the standards for continuous monitoring systems in 40 CFR Part 61, Subpart H.

DOE shall submit quarterly reports to EPA, beginning 30 days after the effective date of this Agreement, that describe the progress made during the previous quarter towards meeting the requirements of this Agreement. The reports shall indicate compliance or noncompliance with the schedule. The latest quarterly report is attached to this Air Operating Permit as Attachment 4.

Quarterly Status Report, October-December 2000, for the National Emission Standards for Hazardous Air Pollutants Compliance Activities

On February 7, 1994, the U.S. Department of Energy (DOE), Richland Operations Office (RL) and the U.S. Environmental Protection Agency (EPA), Region 10, entered into a Federal Facility Compliance Agreement (FFCA). This quarterly report provides the status of RL activities described in the FFCA Compliance Plan.

This quarterly report is divided into four sections. Section I describes activities completed during the current quarter. Section II of this report documents the status of designated stacks requiring continuous monitoring as required in Title 40, Code of Federal Regulations (CFR) Part 61, Subpart H. Section III provides the status of milestones in the FFCA Compliance Plan, and Section IV identifies the focus for the next quarter's activities.

I. ACTIVITIES COMPLETED IN CURRENT QUARTER

Project W-420 (Stack monitoring system upgrades for 296-A-25, 296-B-28, 296-C-05, 296-P-16, 296-S-22, and 296-T-18)

No change in the status of Project W-420.

Amendment to 40 CFR 61 Subpart H

EPA Headquarters issued a proposed amendment to 40 CFR 61 Subpart H for comment on May 9, 2000. EPA held hearings on the proposed amendment on July 12, 2000. As a result of the hearing, EPA extended the comment period to October 6, 2000. DOE HQ has forwarded comments from DOE and contractors to EPA prior to the October 6, 2000 cutoff date.

II. DESIGNATED STACK STATUS

The following table provides the status of the designated registered stacks which require continuous sampling/monitoring.

See Table 1.

III. STATUS OF FEDERAL FACILITY COMPLIANCE AGREEMENT COMPLIANCE PLAN MILESTONES

See Table 2.

IV. PLANNED JANUARY THROUGH MARCH 2001 ACTIVITIES

The next quarterly report of progress for January through March 2001, will highlight progress on the following items: an informational update on Project W-420 and an update on the status of the proposed amendment to 40 CFR 61 Subpart H.

Table 1. Designated Stack Status

DESIGNATED STACKS			
Stack Number		Facility	Status
1	291-A-1	Plutonium-Uranium Extraction Plant (PUREX)	In Compliance
2	296-B-1	B Plant	In Compliance
3	296-A-25	Tank Farms	System to be upgraded
4	296-A-42	Tank Farms	In Compliance
5	296-B-10	Waste Encapsulation and Storage Facility (WESF)	In Compliance
6	296-B-28	Tank Farms	System to be upgraded
7	296-C-5	Tank Farms	System to be upgraded
8	296-P-16	Tank Farms	System to be upgraded
9	296-S-22	Tank Farms	System to be upgraded
10	296-T-18	Tank Farms	System to be upgraded
11	296-W-4	Waste Receiving and Packaging (WRAP)	In Compliance
12	291-Z-1	Plutonium Finishing Plant (PFP)	In Compliance
13	340-NT-EX	340 Building	In Compliance
14	CDVF	Cold Vacuum Drying Facility	In Compliance
15	CSB	Canister Storage Building	In Compliance
16	EP-324-01-S	324 Building	In Compliance
17	EP-327-01-S	327 Building	In Compliance

Table 2. Status of Federal Compliance Agreement Compliance Plan Milestones

Stack Number	Designated Stacks	Comp. Y/N	Scheduled and (Actual) Completion Date
291-A-1	Plutonium-Uranium Extraction Plant (PUREX)		
	EPA, Region 10, accepted sampling system as an alternative method	Y	In Compliance (April 1994)
291-Z-1	Plutonium Finishing Plant		
	Complete flow-measurement site selection	Y	May 30, 1994 (April 29, 1994)
	Complete flow-measurement equipment upgrades (Alternate method accepted by EPA, Headquarters)	Y	May 30, 1996 (May 4, 1995)
	Document upgrades and submit to EPA a request for approval of monitoring system	Y	July 31, 1996 (In compliance September 1995)
291-B-1	B Plant		
	Complete Flow Testing	Y	February 28, 1994 (February 15, 1994)
	Document results of flow studies and submit to EPA a request for approval of monitoring system	Y	April 30, 1994 (April 30, 1994) In Compliance (June 1994)
	Shutdown of stack	N/A	August 31, 1998
291-T-1	T Plant		
	Redesignated as a minor stack	Y	In Compliance (November 1993)
340-NT-EX	340 Waste Handling Facility		
	Accept and award contract for monitoring system upgrades	Y	December 1993 (November 18, 1993)
	Complete installation of monitoring system	Y	December 1994 (December 16, 1994)
	Provide a report documenting compliance and request for EPA approval of monitoring system	Y	March 1995 (March 22, 1995)
296-A-22	242-A Evaporator		
	Submitted and received approval of alternate measurement system	Y	In Compliance (January 1994)
	Request to EPA to redesignate stack as minor stack	Y	Request Granted December 18, 1998
296-A-40	241-AP Tank Farm Exhaust		
	Functional Requirement Document (FRD) submitted to EPA for approval (Approval received from EPA, Region 10, on March 20, 1995)	Y	August 30, 1994 (August 4, 1994)
	Conceptual Design Document submitted to EPA	Y	60 days after EPA, Region 10 approval of FRD May 20, 1995 (April 12, 1995)

Stack Number	Designated Stacks	Comp. Y/N	Scheduled and (Actual) Completion Date
	Upgrade Installation completion (Reassessed to Minor Stack and accepted by WDOH - September 11, 1996)	Y	December 31, 1996 (In Compliance September 11, 1996)
296-A-17	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	29 day extension granted by EPA, Region 10	Y	January 29, 1998
	29 day extension granted by EPA, Region 10	Y	February 28, 1998
	29 day extension granted by EPA, Region 10	Y	March 29, 1998
	Replacement with new unit 296-A-42 and stack shutdown	Y	March 29, 1998 (March 20, 1998)
296-A-25	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Stack reassessment completed - the initial reassessment (1) showed the stack to be a non-designated stack. However, a further study reassessed this stack (2) as a designated stack	Y	8/31/1995 (1) August 17, 1995) (2) (January 16, 1996) Designated stack
	Design Requirement Document provided to EPA	Y	October 31, 1995 (October 19, 1995)
	Design Requirement Review	Y	April 30, 1996 (March 15, 1996)
	Begin construction	Y	June 30, 1999 (May 5, 1999)
	Finish construction	N	December 31, 2005
	Provide documentation to EPA	N	April 30, 2006
296-A-27	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Stack reassessment completed	Y	October 31, 1995 (August 17, 1995) In Compliance
296-A-29	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Stack reassessment completed	Y	October 31, 1995 (August 17, 1995) In Compliance
296-B-28	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)

Stack Number	Designated Stacks	Comp. Y/N	Scheduled and (Actual) Completion Date
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Design Requirement Document provided to EPA	Y	October 31, 1995 (October 19, 1995)
	Design Requirement Review	Y	April 30, 1996 (March 15, 1996)
	Stack reassessment completed	Y	February 28, 1999 (January 16, 1996)
	Begin construction	Y	June 30, 1999 (May 12, 1999)
	Finish construction	N	December 31, 2005
	Provide documentation to EPA	N	April 30, 2006
296-C-5	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Design Requirement Document provided to EPA	Y	October 31, 1995 (October 19, 1995)
	Design Requirement Review	Y	April 30, 1996 (March 15, 1996)
	Stack reassessment completed	Y	December 31, 1999 (January 15, 1996)
	Begin construction	Y	June 30, 1999 (May 26, 1999)
	Finish construction	N	December 31, 2005
	Provide documentation to EPA	N	April 30, 2006
296-P-16	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Design Requirement Document provided to EPA	Y	March 1, 1995 (February 24, 1995)
	Design Requirement Review	Y	October 31, 1995 (October 19, 1995)
	Stack reassessment completed	Y	February 28, 1999 (January 16, 1996)
	Begin construction	Y	June 30, 1999 (June 1, 1999)
	Finish construction	N	December 31, 2005
	Provide documentation to EPA	N	April 30, 2006
296-P-23	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Stack reassessment completed	Y	August 31, 1995 (August 17, 1995) In compliance

Stack Number	Designated Stacks	Comp. Y/N	Scheduled and (Actual) Completion Date
296-P-26	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	March 31, 1995 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	29 day extension granted by EPA, Region 10	Y	January 29, 1998
	29 day extension granted by EPA, Region 10	Y	February 28, 1998
	29 day extension granted by EPA, Region 10	Y	March 28, 1998
	Replacement with new unit 296-A-42 and stack shutdown	Y	March 28, 1998 (March 20, 1998)
296-P-28	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	March 31, 1995 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Stack reassessment completed	Y	August 31, 1995 (August 17, 1995) In compliance
296-S-15	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	August 31, 1994 (August 4, 1994)
	Design Requirement Document provided to EPA	Y	October 31, 1995 (October 19, 1995)
	Design Requirement Review	Y	April 30, 1996 (March 15, 1996)
	Stack reassessment completed. Stack reassessment and accepted as minor by WDOH	Y	January 31, 1996 (January 18, 1996) (September 16, 1996) In Compliance
296-S-22	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)
	Design Requirement Document provided to EPA	Y	October 31, 1995 (October 19, 1995)
	Stack reassessment completed	Y	January 31, 1996 (January 18, 1996)
	Design Requirement Review	Y	April 30, 1996 (March 15, 1996)
	Begin construction	Y	June 30, 1999 (May 21, 1999)
	Finish construction	N	December 31, 2005
	Provide documentation to EPA	N	April 30, 2006
296-T-18	Point by point comparison with Title 40, CFR Part 61, Subpart H requirements	Y	August 31, 1994 (August 4, 1994)
	Schedule for upgrade submitted to EPA, Region 10	Y	March 1, 1995 (February 24, 1995)

Stack Number	Designated Stacks	Comp. Y/N	Scheduled and (Actual) Completion Date
	Design Requirements Document provided to EPA	Y	October 31, 1995 (October 19, 1995)
	Design Requirements review	Y	April 30, 1996 (March 15, 1996)
	Begin construction	Y	June 30, 1999 (May 19, 1999)
	Finish construction	N	December 31, 2005
	Provide documentation to EPA	N	April 30, 2006